Embedded Counselling in Student Mental Health:
Development of a Feasibility Trial

Emma Broglia

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Abstract

Students today have a higher risk of experiencing mental ill-health than previous student cohorts as well as compared to the general population. The current thesis aimed to deliver a programme of research investigating the effectiveness of embedded student counselling services available from Higher Education Institutions (HEIs) in the UK. To inform the generation of robust research in this field in the future, the work contained in this thesis comprises the components, design and implementation of a feasibility trial of a student counselling service. Specifically, a systematic scoping review highlighted the limited number of robustly designed research studies and a wide range of findings from outcome measures that had not been replicated. A survey of embedded counselling services found increased severity of student referrals and an underuse of clinical outcome measures. Telephone interviews with heads of service identified strategies for using technology to widen access, with particular interest in understanding the potential benefits of mobile phone well-being apps. Two further studies validated a student-specific clinical outcome measure for use in the UK, characterised the symptom profiles of help-seeking and non-help-seeking students, and identified barriers to help-seeking by students. The remainder of the thesis presents the protocol, training, and results from a feasibility trial comparing counselling alone versus counselling supplemented with guided use of a well-being app for students experiencing anxiety or depression. A range of feasibility factors sourced from qualitative and quantitative data provide preliminary evidence for using app activities to promote activism between counselling sessions and maintain clinical improvement beyond counselling. A series of reflections and recommendations have been provided in the final chapter with reference to the latest policy reports and the anticipated changes to the wider HE sector.

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Acknowledgements

Declaration

This thesis comprises the candidate's own original work and has not been submitted previously or simultaneously to this or any other University for a degree. All studies were designed, conducted and managed by the candidate, under the supervision of Professor Michael Barkham and Dr Abigail Millings. Selected aspects of the work described in this thesis have been published and presented elsewhere (see Appendix A1-A4 for the published versions of articles).

Publications

Broglia, E., Millings, A., Barkham, M. (2016). Therapist experiences of supplementing counselling with guided use of a well-being mobile phone app. T4I conference article retrieved from: https://dx.doi.org/10.15131/shef.data.4256537

Broglia, E., Millings, A., Barkham, M. (2017). The Counseling Center Assessment of Psychological Symptoms (CCAPS-62): Acceptance, feasibility, and initial psychometric properties in a UK student population. *Clinical Psychology and Psychotherapy*. doi: 0.1002/cpp.2070

Broglia, E., Millings, A., Barkham, M. (2017). Comparing counselling alone versus counselling supplemented with guided use of a well-being app for university students experiencing anxiety or depression (CASELOAD): protocol for a feasibility trial. *Pilot and Feasibility Studies, 3*. doi: 0.1186/s40814-016- 0119-2

Broglia, E., Millings, A., & Barkham, M. (2017). Challenges to addressing student mental health in embedded counselling services: a survey of UK higher and further education institutions. *British Journal of Guidance & Counselling*. doi: 10.1080/03069885.2017.1370695

Other research outputs from thesis

Broglia, E. (2015). Reviewing the University and College Counselling (UCC) annual survey: trends in student counselling services. University and College Counselling, retrieved from: http://www.bacp.co.uk/publications/journals/ucc.php

Learning from research: Andy Hill talks to BACP PhD scholar Emma Broglia about her research and where she hopes it will lead (2015). Therapy Today, 26(10), 50-51, retrieved from: http://www.bacp.co.uk/docs/pdf/15173_dec%2015%20tt.pdf

BACP-funded PhD scholarship: an update. Therapy Today, 23(3) retrieved from: www.bacp.co.uk/docs/doc/15155_15155_april_16_tt%20r.doc

Presentations

Broglia, E. (2015, February). Evidence based practice in clinical psychology. Oral presentation at the Departmental Clinical Psychology Conference, Sheffield, UK.

Broglia, E. (2015, May). Evaluating the effectiveness of embedded student counselling services in higher and further education institutions. Oral presentation at the Departmental Psychology Conference, Sheffield, UK.

Broglia, E. (2016, May). Evaluation of the Counseling Center Assessment of Psychological Symptoms (CCAPS). Oral presentation at the British Association for Counselling and Psychotherapy (BACP) Annual Research Conference, Brighton, UK.

Broglia, E. (2016, September). Using mobile apps to support your mental health and well-being. Oral presentation at the Anniversary Event for Enrych Charity, Leicestershire, UK.

Broglia, E. (2016, November). Therapists' experiences of supplementing counselling with guided use of a well-being mobile phone app. Oral presentation at the Technology for Independence (T4i) Annual Conference, Sheffield, UK.

Broglia, E. (2016, December). Preliminary findings from supplementing counselling with guided use of a well-being app: the CASELOAD Feasibility trial. Poster presentation at the Annual NHS conference for MindTech, London, UK.

Broglia, E. (2017, May). Therapists' experiences of supplementing counselling with guided use of a well-being mobile phone app. Poster presentation at the BACP Annual Research Conference, Chester, UK.

Broglia, E. (2017, June). Clients' engagement in brief therapy supplemented with a well-being mobile phone app. Oral presentation at the Society of Psychotherapy Research (SPR) international conference, Toronto, Canada.

Chapter 1: Changing trends and challenges of embedded student counselling services in Higher Education Institutions (HEIs)

1.1 Introduction

1.1.1 Changing trends of Higher Education

The rates of student suicide have increased exponentially in recent years and students today are more likely to disclose a mental health diagnosis than ever before (Farrell, Kapur, While, Appleby, & Windfuhr, 2016). At the same time, almost half of students avoid disclosing a mental health diagnosis and the clinical levels of mental ill-health in students have overtaken the general population (Stallman, 2010; Thorley, 2017). The changing trends of HE have shaped the forms of distress students experience, and with these changes have come higher rates of financial burden, loneliness, social anxiety, substance misuse and higher pressures to succeed (Boulton, 2016; Britt, Ammerman, Barrett, & Jones, 2017; Henninger, William, Eshbaugh, Osbesk, & Madigan, 2016). The introduction of new policies has also changed the make-up of the student body with more non-traditional students entering HE including: UK domicile Black and Minority Ethnic (BME) individuals; students entering with alternative qualifications; and higher rates of students estranged from their parents (Bhopal, Brown, & Jackson, 2016; Mulrenan, Atkins, & Cox, 2017; Van Rhijn, Lero, Bridge, & Fritz, 2016).

Despite education previously acting as a buffer against poor psychological health, today students are more likely to drop out of HE due to poor mental health than ever before (Levine, 2017; Thorley, 2017). Even students who progress through HE experience reduced levels of psychological health that do not return to pre-entry levels (Bewick, Koutsopoulou, Miles, Slaa, & Barkham, 2010). These psychological complications not only impact on the individual's ability to perform academically and their career prospects, but also on wider society in terms of employment and usage of health services (Scott-Clayton & Minaya, 2016). Students currently account for 2.3 million of the UK population and with enrolment into HE increasing exponentially, the student body will continue to expand along with the increasing complexity of their needs (Ramsden, 2010; Universities UK, 2016). During this time of student growth, the HE sector has experienced a reduction in funding that has led to a rise in tuition fees and today students pay up to £9,250 annually for an undergraduate degree (Malcolm, 2010; UCAS, 2017). The higher rates of financial burden have contributed to the rise in students being in part-time employment during HE and an increased likelihood of

students enrolling in institutions close to their home region (Ramsden, 2010; Robb, 2017).

According to Mair (2016), the rising trend of student distress is due to several interlinking factors including a range of wider societal changes that have put more emphasis on academic success. Young adults today have experienced a financial recession, a depletion in the housing market, a rise in youth unemployment, and have less financial certainty than previous generations (Boffey, 2015; Goldberg & Petasnick, 2010; Muellbauer & Murphy, 1997). There is also substantially more exposure to social media that creates greater internalised pressures from unrealistic portrayals of success, which in turn encourage fears of being left behind or underperforming (Mair, 2016).

Aside from the wider societal changes, developments within HE have contributed to increased experiences of student mental ill-health such as: 1) campaigns to raise awareness of mental health and reduce stigma; 2) increased help-seeking; 3) more accurate diagnoses of mental ill-health in students including anxiety and depression; 4) better quality treatments being available; 5) improved access to mental health support services; and 6) an increased number of advisors signposting students to appropriate services (see Department for Business Innovation & Skills report, 2012; Institute for Employment Studies, 2015).

1.1.2 Current provision for student mental health

Counselling services in Higher Education Institutions (HEIs) have been available to students since the 1960s and are unique in that they are subject to disruption from a constant cycle of semesters and vacations (Goldberg, 1980). Traditionally, counselling services available from HEIs (i.e. embedded services) have offered an unspecified number of face-to-face counselling sessions, because the ratio of therapists to help-seeking students permitted this model (Mair, 2016). Embedded counselling services have since been shaped by the rising demands of student mental health, which alongside funding restrictions, means that the traditional service model is no longer viable.

HEIs currently provide a short-term counselling service that typically includes 4-6 sessions and focuses on offering face-to-face support (see Institute for Employment Studies, 2015). However, the available funding is often unpredictable each year and this creates difficulties for services to plan for the future. Alarmingly, even with more

funding, services would not be able to keep up with the level of demand imposed by students. Accordingly, solutions are needed to help services to be more efficient, to offer alternative support options in addition to face-to-face, and to offer support throughout the academic year (Institute for Employment Studies, 2015).

1.1.3 Recommendations

Demonstrating the effectiveness of student counselling has been a concern of HEIs and, in response, the Higher Education Funding Council for England (HEFCE) proposed that institutions should prioritise collecting evidence to demonstrate how services contribute to students' ability to cope at university (Institute for Employment Studies, 2015). The consensus from HEIs is that attention is needed to administer appropriate measures to monitor students' improvement and identify areas of service development. Moreover, the HEFCE stressed the need to identify measures that are relevant to students to support early detection and intervention. Collectively, these goals will help address the need to robustly test and evaluate services, and identify how services impact on student mental health. By addressing the relevance and quality of data collection on student mental health, HEIs will be able to take a proactive stance in addressing student mental ill-health and this, in turn, will contribute to the development of polices to be updated in line with changes in funding, government policies, and external services (Institute for Employment Studies, 2015).

Identifying the current mental health needs of students will inform whether traditional service models can remain effective in light of the rising demands and will direct the development of institution wide initiatives alongside service development. Moreover, the Institute of Public Policy Research (IPPR) recommends that HEIs should prioritise student mental health across the sector and that the student mental health strategy should be viewed as an ongoing development adhering to best practice (Thorley, 2017). By doing so, Thorley (2017) also argues the following: 1) that HEIs should invest more in supporting student mental health and wellbeing; 2) there should be transparent analyses on students' current and predicted mental health needs; 3) the government should implement a national strategy to improve current practices of data collection; and 4) the national data collection strategy should, in turn, build evidence to demonstrate the effectiveness of student mental health services.

1.1.4 Technology in embedded counselling services

In addition to the challenges faced by embedded counselling services, there has been a rise in the use of technology in the therapeutic context. Whilst technology provides opportunities for services to streamline and extend the point of access to students, services are challenged to demonstrate their effectiveness and technology can be viewed as a threat with fears of counsellors and traditional services being replaced (Tynan, 2017). In embedded counselling services, technology has commonly been used to offer online counselling to support distant learners and students less able to attend the counselling service (Mair, 2016). Embedded counselling services have also used technology for its potential to widen access with more innovative ways of responding to demand. However, previous uses of technology to deliver therapy have raised concerns about the impact it has on the therapeutic relationship. According to Suler (2004), using technology to deliver therapy increases the likelihood of therapists and clients disclosing personal information that can, in turn, disrupt the balance of the therapeutic relationship. This balance likely changes with each varying use of technology and, combined with the limited guidelines and gaps in training, has created uncertainties about the use of technology in embedded services (Reynolds & Morris, 2002).

The therapeutic use of technology is usually introduced as an interest of the client and it has been recognised to be the responsibility of the therapist (or more broadly the counselling service) to be inclusive of these clients (Anthony, 2001; Goss & Anthony, 2009). This responsibility is particularly relevant in the student context as students' learning environments are enhanced with technology and extending the use of technology to the support services will align with students' expectations. In a review of the therapeutic applications of technology, Goss and Anthony (2009) highlighted the potential for technology to extend and enhance face-to-face counselling. Their review provided promising evidence to support the therapeutic use of email, instant messenger, online message boards, websites, forums, videoconferencing, online self-help, mobile apps and mobile enabled assessments. However, the purpose of technology should be clear in that it is not aimed to replace face-to-face support but rather to enhance current practice and to appeal to clients who do not feel comfortable visiting a counselling service. Emphasis should also be placed on the varied application of technology to offer low intensity support as an early prevention, and to provide access to support outside of service hours (Farrer et al., 2013). These qualities show potential for addressing some of the challenges faced by student counselling services.

However, more research is needed to inform the development of guidelines and training in this area.

1.2 Overview of thesis Chapters and aims

With a series of challenges outlined above, the aim of the work reported in this thesis is to provide a foundation of evidence exploring the effectiveness of in-house student counselling services available from HEIs in the UK (i.e. embedded counselling services). Related to this aim, and to inform the development of robust research evidence, this thesis reports on the aims to design and implement a feasibility trial. The aims of the thesis are addressed in the following sequence of chapters: 1) introduction to challenges of embedded student counselling services; 2) systematic review of embedded counselling services in HE; 3) survey evaluation of embedded counselling services and follow-up interviews; 4) validation of a student-specific clinical outcome measure; 5) identification of student symptom profiles and non-help-seeking behaviours; 6) protocol of a feasibility trial including an app evaluation study and brief therapist training workshop; 7) quantitative feasibility trial outcomes; 8) qualitative primary feasibility trial outcomes; 9) mixed-methods findings from secondary feasibility outcomes; and 10) discussion of key findings and recommendations for HEIs.

Following the current chapter, Chapter 2 provides a review of the scientific literature from 2005-2015 with the aim of documenting the current evidence on student counselling in Higher Education (HE) and to provide a direction for the thesis and wider research agenda. Chapter 3 extends the review by characterising the current state of the student counselling sector via a survey comparison of data collected from student counselling services, and with telephone interviews exploring the current use of technology across services. Chapter 4 addresses the policy recommendation to collect robust data on student mental health by providing the first UK study to validate a student-specific clinical outcome measure, and by characterising the mental health profile of help-seeking students. Chapter 5 extends findings by characterising the mental health profile of a geographically diverse sample of non-help-seeking students, and by identifying barriers to help-seeking behaviour. Chapter 6 collates research findings from the preceding chapters in a detailed protocol describing the methods and planned analyses of a feasibility trial.

Briefly, the trial compares counselling alone (i.e. Treatment As Usual/TAU) versus counselling supplemented with guided use of a well-being app with university students experiencing anxiety or depression. Within the trial protocol in Chapter 6 is a

brief mobile app evaluation study used to inform the design and training for using a well-being app alongside face-to-face counselling. The trial protocol identifies a series of primary and secondary feasibility outcomes that will be explored in the proceeding chapters with a combination of quantitative and qualitative data sources. For this purpose, Chapters 7 to 9 present only the results and brief discussions of a contained set of data that address the primary and secondary trial outcomes. Finally, Chapter 10 outlines a series of recommendations with references to the latest policy reports and supporting practice based research in the student counselling context.

Three of the thesis chapters have been published including: 1) a survey of UK embedded counselling services (Chapter 3); 2) a validation of a student-specific clinical outcome measure (Chapter 4); and 3) the trial protocol (Chapter 6).

Chapter 2: Systematic scoping review of embedded student counselling services in Higher Education Institutions (HEIs)

2.1 Chapter overview

This review aims to synthesise and evaluate research on the effectiveness of student counselling services in Higher Education (HE). A previous systematic scoping review revealed limited evidence in the UK demonstrating the effectiveness of embedded student counselling (Connell, Cahill, Barkham, Gilbody, & Madill, 2006). Since that review, and in the last decade, UK Government initiatives have continued to widen access to HE and have raised tuition fees. These expansive changes have added strain on student counselling services as students present with more complex mental health needs (Royal College of Psychiatrist Report, 2011). The current chapter extends the Connell et al. (2006) review by systematically reviewing and quality assessing recent evidence on student counselling services comprising 8 Randomised Controlled Trials (RCTs), 9 pilot studies and 8 non-RCT designs. The Cochrane Library's Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist was used to critically evaluate research methods and outcomes. An adjusted version of Downs and Black's (1998) Quality Index was used to evaluate the methods of research designs in terms of bias, power, internal and external validity.

2.2 Introduction

The current review expands a previous systematic scoping review that aimed to collate and quality assess evidence on student counselling in Higher and Further Education (HE/FE) - see Connell, Cahill, Barkham, Gilbody, and Madill (2006). The review by Connell and colleagues (2006) emerged partly in response to the widening participation scheme that aimed to increase entry into HE. Specifically, Connell et al. (2006) aimed to capture the changing trends of embedded counselling services in response to increased demands from a student population that was expanding in terms of overall numbers and in diversity as more non-traditional students entered HE. Prior to Connell et al.'s (2006) review, several studies highlighted the lack of evidence and evaluation of embedded student counselling services (e.g. Campbell, 1965; Meadows, 1975; Wilson, 1970). Therefore, combining the need to evidence student counselling and to document the changing trends of the student body, Connell et al. (2006) aimed to identify: 1) the intake severity and assessment of students; 2) the effectiveness of student counselling (according to available evidence); and 3) factors that impacted on students (i.e.

outcomes of counselling). These areas have been extended in the current review and the combined findings have formed the framework for the wider thesis.

Regarding intake severity and assessment, Connell et al. (2006) identified an array of presenting issues documented within student counselling services. These presenting issues were multifaceted and addressed: 1) clinical concerns (e.g. anxiety, depression, disordered eating, and panic); 2) contextual concerns (e.g. academic, stress, and isolation); 3) lifestyle factors (e.g. substance misuse, sexuality, and relationships); and 3) skill development (e.g. self-esteem, personal development, and identity). From Connell et al.'s (2006) review it was clear that students predominantly sought help for concerns regarding their relationships (including peer, family, and romantic) and academic stressors. Adding to the complexity of needs, anxiety and depression frequently overlapped with other presenting issues and were often present even if they weren't the primary reason for students to seek help. Aside from this complexity, there was provisional evidence to suggest a rise in the severity of distress, but with limited data and the majority of studies conducted in the US, such trends in the UK could not be determined.

The combined complexity and potential severity of presenting issues led Connell et al. (2006) to endorse the need to characterise students' symptom profiles (rather than discrete symptomology) in order to better understand and address student mental health needs. There was also merit in exploring students' access to alternative support from friends and family, as well as screening for alcohol use and trauma as these three factors had been shown to affect student distress. Regarding the effectiveness of counselling, emphasis was placed on short-term counselling employing a range of therapeutic models including psychodynamic and person-centred approaches. Short-term counselling typically comprised 4 to 8 sessions with some studies referring to fewer than 6 sessions as brief or very short-term counselling. Whilst interventions were brief, Connell et al. (2006) found evidence for short-term psychodynamic and person-centred counselling to contribute to immediate positive outcomes. Evidence was also found for crisis interventions to specifically reduce student dropout (from FE/HE) with limited evidence for cognitive behavioural therapy to reduce test-anxiety or anxiety from traumatic experiences.

The variation and specificity of these interventions highlight the difficulty in evidencing the effectiveness of student counselling in a way that can be applied across services and used to inform development. These factors also create challenges for

designing research and demonstrating effectiveness for student counselling. Combined, these challenges led Connell et al. (2006) to conclude that preliminary evidence has been limited by using non-experimental, quasi-experimental, single studies, and RCTs that have not been embedded in practice. Administering clinical outcome measures pre-post counselling have also limited the findings, with little evidence on the sensitivity of clinical change across counselling sessions or the longevity of clinical change beyond counselling (i.e. at follow-up). Regarding student outcomes from counselling, previous research has focused on client engagement (and dropout), symptom improvement and therapeutic alliance. Specifically, Connell et al. (2006) highlighted how previous studies have attempted to identify client characteristics that contribute to outcomes and to understand which factors encourage students to engage with or disengage from counselling.

A wide range of client factors have been previously explored including: optimism, readiness to change, motivation, expectations, intentions, psychopathology, demographics, self-efficacy, goals, coping styles, emotional maladjustment, conscientiousness, self-esteem, personality, therapist match, satisfaction, attachment style, and identity (e.g. Berry & Sipps, 1991; Elligson, 1990; Hatchett & Park, 2004; Longo, Lent & Brown, 1992; Robinson, 1969; Smith, Subich, & Kalodner, 1995; Stewart, 1996). A range of treatment factors has also been explored including: the duration of each counselling session, the use of feedback during counselling, therapist demographics, therapist adherence, and therapist personality fit with client (e.g. Erdur, Rude, & Baron, 2003; Newman & Greenway, 1997; Tracey, Sherry, & Albright, 1999; Turner, Valtierra, Talken, Miller, & DeAnda, 1996).

However, and in following the trend with client factors, there was great variation in the types of therapist factors explored. Despite limited evidence, the broad spectrum of client and therapist factors highlight the complexity and individuality that contribute to students' unique situation, their willingness to engage with counselling, and their ability to benefit from counselling. These create further challenges in designing, measuring and reporting research on student counselling, which remains understudied in the UK. Taken together, the current evidence, whilst promising, is lacking in rigour with gaps in both the research methods used and in the reporting quality of findings. With the current standard of research design and reporting, Connell et al. (2006) proposed that research evidence has been unable to inform service development, treatment guidelines, or national recommendations on the quality

standards for embedded student counselling services. The overarching restrictions from research to date have further been affected by how unique and individualistic studies have been in terms of the treatment, client symptomology, outcomes measured, and design used. Whilst these decisions have been fair, they have also prevented the ability to extend findings to broader contexts such as other counselling services and other student groups. The current thesis aims to address these challenges and begins by reviewing the evidence from the last decade (2005-2015) as an extension to Connell et al.'s (2006) findings and to inform the direction of doctoral studies and research more broadly.

2.3 Research questions

The current review considered the following research questions: 1) what is the current evidence supporting the effectiveness of student counselling services in HE?; 2) what outcome measures have been used to explore the effectiveness of student counselling?; and 3) what research methods/designs have been used to explore the effectiveness of student counselling? The review employed a broad scope to capture a range of student mental health needs, therapeutic interventions, and study designs, in order to inform later work in the thesis. Therefore, the review does not intend to perform a meta-analysis but rather is aimed to provide a descriptive account and quality assessment of the student counselling literature from 2005 to 2015.

2.4 Method

2.4.1 Database search

Searches were performed in MEDLINE, Web of Science, Psych INFO, Scopus, Cochrane Library and UKCRN databases to identify published literature and current registered trials aiming to examine the effectiveness of counselling services in HE. Search strategies were catered to each database and results were filtered to 2005-2015 and English Language. The search was performed in February 2015. Articles that could not be sourced under the University's licence were requested from the British Library and the corresponding author.

2.4.2 Search terms

The following search terms were used: (*higher education* AND *students* AND *counselling*) OR (*college* AND *students* AND *counselling*) OR (*university* AND *students* AND *counselling*) OR (*students* AND *psychotherapy*) OR (*students* AND *e-therapy*) OR (*students* AND *mental health*) OR (*students* AND *wellbeing*) OR (*anxiety* AND *students*)

OR (*depression* AND *students*) OR (*stress* AND *students*) OR (*academic performance* AND *students*) OR (*academic attainment* AND *students*) OR (*eating concerns* AND *students*) OR (*eating disorders* AND *students*) OR (*body image* AND *students*) OR (*sleep* AND *students*) OR (*self-concept* AND *students*) OR (*self-esteem* AND *students*) OR (*family distress* AND *students*) OR (*social distress* AND *students*) OR (*social anxiety* AND *students*) OR (*alcohol abuse* AND *students*) OR (*substance abuse* AND *students*) OR (*drug abuse* AND *students*) OR (*hostility* AND *students*) OR (*aggression* AND *students*) OR (*self-harm* AND *students*) OR (*suicide* AND *students*) NOT (*patients*) NOT (*drug trial*). For a complete list of Medical Subject Headings (MeSH) terms, see Appendix B1.

2.4.3 Inclusion criteria

A search term framework was used to identify relevant studies according to population, intervention and measures (Table 2.1). Search terms were identified in relation to the aims and specific research questions of the review. The population was restricted to students (i.e. not general population) and the intervention was restricted to services embedded within the academic setting to ensure that only evidence relevant to student mental health and student counselling services were selected. To identify the current state of evidence supporting the effectiveness of university counselling services, study designs were restricted to quantitative data only to allow prominent design components to emerge and inform the development of future Randomised Controlled Trials (RCTs). Related to assessing the effectiveness of services, a range of search terms referring to treatment outcomes and presenting issues were used to explore the types of measures used in student mental health research.

2.4.4 Exclusion criteria

Titles and abstracts were screened and excluded if they met the following criteria: non-university setting, primary care patients, drug-trial, participants aged <18 years, elderly or published before 2005.

Table 2.1. Summary of search term framework used to identify eligible articles for systematic review to specify the target population, intervention and outcome measures

| | Search term framework | | |
	Population	Intervention	Outcomes*
Description	Any student attending university or college aged ≥ 18 years	Any form of therapeutic support available to students and embedded within university (HE)	Referring to both the psychological presenting issues being targeted by interventions and the methods or measures used to monitor outcomes
Search terms	University; college; higher education; student;	Counselling; psychotherapy; e-therapy; wellbeing;	Academic; anxiety; alcohol misuse; body image; cognitive; depression; drug misuse; eating concerns; family distress; hostility; loneliness; measures; outcomes; self-esteem; sleep; stress; substance misuse; suicide; wellbeing;

*Outcome search terms were informed by a recent review of student mental health concerns (see Berger, Franke, Hofmann, Sperth, & Holm-Hadulla, 2015)

2.5 Results

The search term strategy identified 4,771 records across the five databases used (Web of science = 1,902; Medline = 1,924; Psych Info = 55; Scopus = 890; and Cochrane Library = 0). A total of 234 duplicates were removed and the abstracts of the remaining 4,537 records were screened. A total of 4,453 records were excluded for the following reasons: 1) topic area was outside the scope of the review (n = 2,504); 2) population did not include university students (n = 1,569); 3) intervention was not embedded within a university (n = 217); 4) research methods employed qualitative work only (n = 19). The remaining 84 full-text articles were assessed and a following 59 articles were removed for either including a non-student population (n = 34) or for evaluating an intervention that was not embedded within a university (n = 25). This screening process provided 25 eligible full-text articles for review and is summarised in Figure 2.1.

Eight eligible studies used RCT designs to explore comorbid alcohol and depression, eating disorders, help-seeking, suicide risk, substance abuse and social phobia (Austenfeld, Paolo, & Stanton, 2006; Geisner, Varvil-Weld, Mittmann, Mallett, & Turrisi, 2015; Kass et al., 2014; Pistorello, Fruzzetti, MacLane, Gallop, & Iverson, 2012;

Short, Fernandez, Borsari, Hustad, & Wood, 2011; Stice, Marti, & Cheng, 2014; Taylor-Rodgers, & Batterham, 2014; Tillfors et al., 2008). Nine studies used pilot designs to explore anxiety, wellbeing, Borderline Personality Disorder (BPD), depression and comorbid depression (with anxiety, alcohol abuse, or smoking), body image concerns, and stress from academic concerns (Chung et al., 2011; Margrove, 2013; McVey et al., 2010; Meaney-Tavares & Hasking, 2013; Reynolds, Macpherson, Tull, Baruch, & Lejuez, 2011; Richards & Tangney, 2008; Schleicher, Harris, Campbell, & Harrar, 2012; Stewart, Dispenza, Parker, Chang, & Cunnien, 2014).

2.5.1 Study characteristics

Study characteristics are summarised in Table 2.2 with studies listed alphabetically according to the first author. The data demonstrates how most recent studies employed RCT designs over pilot and non-RCT designs. Several pilot studies employed online interventions demonstrating increased interest in using technology in the context of student counselling. Regarding sample size, RCTs had approximately double the sample size of pilot studies, with analyses on service data and national databases contributing the largest samples.

2.5.2 Participants

All studies recruited undergraduate and postgraduate university students attending embedded counselling services. Sixteen studies were from universities in the USA, two from Dublin, two from Australia, one review collated data from the USA and Germany (Efstathiou, 2009) and one study derived from each of the following countries: Canada, Germany, Sweden, and the UK. The age of participants ranged between 18-30 years old (mean = 21.2, SD = 2.65), but nine studies did not provide participants' average age and only stated that students were over 18 years old. In line with previous literature, most studies recruited a higher percentage of females (69.3%) than males. Of the 25 studies, all but two focused on students attending a university in their home country with only two studies focusing on international students (see Locklard, Hayes, Graceffo, & Locke, 2013; Stice, Marti, & Cheng, 2014).

Figure 2.1. PRISMA flow diagram for stages of article screening from five databases and detailing the number of records identified, titles and abstracts screened, full-text articles reviewed and outlining the 25 selected articles for the review

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┌─────────────────────────────────┐
│      Records identified         │
│        (n = 4,771)              │
│                                 │
│  Web of Science (n = 1,902)     │
│  Medline (n = 1,924)            │
│  Psych Info (n = 55)            │
│  Scopus (n = 890)               │
│  Cochrane Library (n = 0)       │
└─────────────────────────────────┘
                │
                ▼
┌─────────────────────────────────┐
│  Records after duplicates       │
│          removed                │
│        (n = 4,537)              │
└─────────────────────────────────┘
                │
                ▼                        ┌─────────────────────────────────┐
┌─────────────────────────────────┐      │   Titles/Abstracts excluded     │
│      Records screened           │─────▶│         (n = 4,453)             │
│        (n = 4,537)              │      │                                 │
└─────────────────────────────────┘      │  Topic (n = 2,504)              │
                │                         │  Population (n = 1,569)         │
                │                         │  Setting (n = 217)              │
                │                         │  Qualitative only (n = 19)      │
                ▼                         └─────────────────────────────────┘
┌─────────────────────────────────┐      ┌─────────────────────────────────┐
│  Full-text articles assessed    │─────▶│  Full-text articles excluded    │
│         (n = 84)                │      │          (n = 59)               │
└─────────────────────────────────┘      │                                 │
                │                         │  Population (n = 34)            │
                │                         │  Setting (n = 25)               │
                ▼                         └─────────────────────────────────┘
┌─────────────────────────────────┐
│       Studies reviewed          │
│         (n = 25)                │
│  RCT (n = 8)                    │
│  Pilot (n = 9)                  │
│  Evaluation (n = 2)             │
│  Service data analyses (n = 3)  │
│  Quasi-experiment (n = 1)       │
│  Service evaluation (n = 1)     │
│  Review (n =1)                  │
└─────────────────────────────────┘
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Whilst the sample size for RCTs were larger than pilot studies, there was a broad range (64-437 participants), which overlapped the sample size of pilot studies (RCT mean = 309.8, SD = 467.15; pilot mean = 154.00, SD = 252.50). As expected, non-RCT studies had much greater variation in their sample sizes (range = 20-4645 participants).

2.5.3 Power

Using Cohen's (1992) power primer as an indicator to determine whether the RCTs were sufficiently powered, five of the eight RCTs were adequately powered at 80% with an .05 alpha level including: Austenfeld et al. (2006), Geisner et al. (2015), Kass et al. (2014), Short et al. (2011) and Pistorello et al. (2012). Specifically, Pistorello et al. (2012) present findings from an RCT that compares an intervention with an active control and is adequately powered for a large effect size. Short et al. (2011) employed the same RCT design as Pistorello et al. (2012) and was powered to detect a medium effect size. Kass et al. (2014) also present an RCT with two conditions, but instead compares two active treatments and is adequately powered for a medium effect size. Stice et al. (2014) presents findings from two RCTs, with one comparing an intervention with a wait-list control that is powered for a medium effect size, but the second RCT comprises three conditions (intervention vs. active control vs. control) and is not adequately powered with a control group of only 29 participants.

Austenfeld et al. (2006) also present findings from an RCT with three conditions (two interventions vs. active control) that is adequately powered for a medium effect size. The final adequately powered RCT is Geisner et al.'s (2015), which compares four conditions (three interventions vs. control). The three RCTs that were not adequately powered include: Taylor-Rogers and Batterham (2014), Tillfors et al. (2008) and one study within Stice et al.'s (2014), as described above. Tillfors et al. (2008) present findings from an RCT comparing an intervention with an active control, but each condition comprises 18 participants. In Taylor-Rogers and Batterham's (2014) RCT, an intervention comprising 33 participants is compared with a control comprising 34 participants, and is not adequately powered.

2.6 Interventions described in RCTs (n = 8)

The interventions used across the 8 RCTs included online CBT, Dialectical Behaviour Therapy (DBT), psychoeducation and emotional writing. Stice et al. (2014) presents data from two RCTs with separate student samples participating in the *Body Project*. A total of 27 clinically trained individuals staffed at the university and holding bachelor or

postgraduate qualifications in counselling, psychology or nutrition delivered the programme. The intervention comprised 4 group sessions including discussions, role-play and homework. In session 1, students discussed their interpretations of thin ideation and wrote about their experiences of pursuing being thin. Session 2 encouraged students to role-play scenarios where they discouraged others from thin ideation. In sessions 3 and 4, students discussed methods of challenging pressures to be thin and confronting unrealistic body perceptions. Students randomised to the control condition had access to an online documentary on eating disorders with professional talks on the consequences of eating disorders. Students randomised to the second control group were provided with a paper leaflet containing information and advice on eating disorders.

Two further studies used CBT techniques to address issues with body image and disordered eating in a project called *Student Bodies*. The first was an RCT that paired the *Student Bodies* programme with online guided discussion to explore whether the programme's efficacy could be enhanced (Kass et al., 2014). The second study performed a meta-regression on data from 10 RCTs[1] using the *Student Bodies* programme within a university/college setting (Beintner et al., 2014). In both studies, the programme comprised eight weekly online sessions teaching self-help CBT techniques to reduce body weight/shape concerns. Students received weekly email prompts to complete each session including: mood and emotion regulation; healthy eating and exercise; sleep and mental health; and how to adopt healthy behaviours.

Students completed diaries throughout the intervention and had access to online content for 9 months beyond the trial. Students randomised to *Student Bodies* paired with online guided discussion were additionally encouraged to anonymously discuss session material on an online platform with other students on the programme. Questions were also posted on the boards each week by a clinically trained bachelor level student and all contents were overseen by a nominated clinician at each trial site. The final RCT that used CBT techniques was combined with group exposure therapy for social phobia (Tillfors et al., 2008). Online guided CBT included 9-weekly sessions: 1) psycho-education; 2) cognitive style for social phobia; 3) cognitive restructuring part 1; 4) cognitive restructuring part 2; 5) exposure part 1; 6) changing focus; 7) exposure part

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[1] These RCTs were not returned in the original search term framework and were not subsequently included because their findings had been summarised in Beintner et al.'s (2014) meta-regression.

2; 8) social skills; and 9) preventing relapse. Each week students completed inter-session homework and engaged with online discussion. Students received feedback on their homework from therapists via email before the next online session became available. Students received up to three email reminders to complete the session material and were finally telephoned if no response had been made.

Session materials were also made available on paper and posted to students who were unable to access the internet or preferred paper copies. The online programme was facilitated by 4 in-house therapists or postgraduate clinical students trained in social phobia and each student was randomly assigned to a therapist. Five face-to-face group therapy sessions were provided within the 9-week online programme and were held in the evenings to optimise attendance. Each week students were encouraged to speak in front of the group (approx. 4-6 students) about a topic that varied between 2-5 minutes in length. In the final group session, students were video-recorded, self-assessed and presented to a larger staff audience (11 individuals). Students randomised to the control group joined a waiting list before receiving online CBT and group therapy (as described above). Online interventions were used in two more RCTs offering online psychoeducation to address anxiety, depression, suicidal ideation and negative consequences of alcohol consumption (Geisner et al., 2015; Taylor-Rodgers & Batterham, 2014).

Table 2.2. Summary of study characteristics of articles included in review, detailing the year of publication, journal, country, symptom measured, sample size, sample age, and percentage of female participants, split by design

#	Author	Year	Journal	Country	Design*	Symptom	Sample N	Age	% Female
RCT design									
1	Austenfeld	2006	Personality	USA	RCT	Clinician continuity	64	26.4	45.0
2	Geisner	2015	Addictive Behaviours	USA	RCT	Depression and substance misuse	311	20.1	62.4
3	Kass	2014	Behaviour & Research Therapy	USA	RCT	Eating disorder	151	21.0	100.0
4	Pistorello	2012	Clinical Psychology	USA	RCT	BPD	63	20.1	81.0
5	Short	2011	Substance Abuse	USA	RCT	Substance use	358	18.3	57.3
6	Stice	2014	Behaviour & Research Therapy	USA	RCT	Eating disorder	192	21.6	100.0
7	Taylor-Rogers	2014	Affective Disorders	Australia	RCT	Help-seeking	67	21.9	75.8
8	Tillfors	2008	Depression and Anxiety	Sweden	RCT*	Anxiety	36	30.0	76.9
						Mean (SD)	*309.80 (467.15)*	*22.41 (3.85)*	*74.8 (19.50)*
Pilot design									
9	Chung	2011	American College Health	USA	Pilot*	Depression	801	-	68.0
10	Mailey	2010	Psychology, Health & Medicine	USA	Pilot*	Depression	47	-	68.1
11	Margrove	2013	Further and Higher Education	UK	Pilot	Well-being	15	-	-
12	McVey	2010	Body Image	USA	Pilot	Eating disorder	37	22.7	83.7
13	Meaney-Tavares	2013	American Collage Health	Australia	Pilot	BPD	17	22.5	76.5
14	Reynolds	2011	Counselling Psychology	USA	Pilot	Depression	71	17.9	54.3

Table 2.2. (cont'd) Summary of study characteristics of articles included in review, detailing the year of publication, journal, country, symptom measured, sample size, sample age, and percentage of female participants, split by design

#	Author	Year	Journal	Country	Design*	Symptom	Sample N	Age	% Female
15	Richards	2008	British Journal of Guidance & Counselling	Dublin, UK	Pilot*	Depression and academic	389	-	65.0
16	Schleicher	2012	American College Health	USA	Pilot	Depression and substance misuse	58	19.6	61.6
17	Stewart	2014	Creativity in mental health	USA	Pilot*	Anxiety	55	21.0	62.3
						Mean (SD)	*154.01 (264.99)*	*20.3 (2.02)*	*68.7 (9.15)*
Non-RCT design									
18	Bauer	2009	Guidance & counselling	Germany	Evaluation*	Eating disorder	279	27.4	78.0
19	Cukrowitz	2009	Clinical Psychology	USA	Evaluation	Depression	238	19.1	48.7
20	Efstathiou	2009	British Journal of Guidance & Counselling	-	Evaluation*	General online counselling	-	-	-
21	Richards	2009	British Journal of Guidance & Counselling	Dublin, UK	Feasibility*	Adjustment	50	-	79.0
22	Tatum	2006	International journal of Behavioural Consultation & Therapy	USA	Quasi-experiment	Anxiety	20	-	66.0
						Mean (SD)	*179.12 (130.69)*	*23.31 (5.86)*	*64.2 (14.11)*

Table 2.2. (cont'd) Summary of study characteristics of articles included in review, detailing the year of publication, journal, country, symptom measured, sample size, sample age, and percentage of female participants, split by design

#	Author	Year	Journal	Country	Design*	Symptom	Sample N	Age	% Female
Non-RCT design: large datasets									
23	Beintner	2014	Internet interventions	USA	Review*	Eating disorder	990	20.0	100.0
24	Lee	2009	College Student Development	USA	Analysis	Academic	4645	18.4	48.9
25	Locklard	2013	College Counselling	USA	Analysis	Academic	1796	22.6	65.9
						Mean (SD)	*2477.30 (1920.31)*	*20.33 (2.12)*	*71.64 (26.02)*

*Online interventions

Taylor-Rodgers and Batterham (2014) offered 3-weeks of online psychoeducation including fictional accounts of anxiety, depression and suicidal ideation. Each session provided links to websites covering the symptoms, treatment, stigma and advice related to each mental health issue. Participants randomised to the control group received the same programme structure, but with content on nutrition. In Geisner et al.'s (2015) RCT, online psychoeducation targeted students with comorbid depression and risky alcohol behaviours.

Three versions of online psychoeducation offered information on alcohol only, depression only, or combined alcohol and depression. In each condition students completed clinical assessments and received personalised feedback in an online infographic (e.g. a graph with the users' scores marked within the population boundary). Students randomised to the control condition did not receive personalised feedback but only their overall score and a link to an online advice page. The only study to explicitly explore medical students utilised a RCT design to explore the effectiveness of emotional writing in reducing hostility experienced from medical placements (Austenfeld et al., 2006). The intervention comprised three independent writing exercises each lasting 25-mintues across an 8-week period.

Students completed exercises alone and were encouraged to write about their emotions from a traumatic experience from their medical placement. This structure was repeated for the second intervention group whereby students wrote about the best version of their 'future-self'. In the control condition students wrote a factual account of the activities they completed in the last 24-hours but without describing their thoughts or emotions. The final RCT adapted DBT for Borderline Personality Disorder (BPD) in a university counselling setting (Pistorello et al., 2012). The intervention lasted 12 months and comprised weekly: 1) psychotherapy, 2) group workshops, 3) skills training, 4) group therapy and 5) family intervention (when appropriate). The intervention was delivered by an external clinician trained in DBT and sessions were also shortened to compliment student availability.

2.7 Interventions described in pilot and feasibility studies (n = 9)

The interventions described in the pilot studies varied greatly according to intervention length and reporting quality with many focusing on a distinct topic. Cukrowicz et al.'s (2009) pilot study included an 8-week programme with 2-hour computerised psychoeducation for anxiety and depression. Programme content was adapted from a previous intervention used for patients with chronic depression with the aim of

developing educational materials as an early intervention for students presenting with depression symptomology. The original intervention applied methods from the Cognitive Behavioural Analysis System of Psychotherapy (CBASP), which is designed specifically for patients with chronic depression and is highly structured, thus complimenting adaption to an educational programme.

The adapted psychoeducation aimed to teach students how to analyse interpersonal situations and detect opportunities for behaviour change to alter the situational outcome. The programme included general information about depression, anxiety and the basic principles of CBT. Students received weekly email reminders for each session and were encouraged to read additional resources to complement each session. Richards and Tangney's (2008) pilot study also targeted depression in students by exploring content from guided discussions in an online community. The study was predominantly descriptive focusing on the rationale and development behind a newly available online platform for students to access educational content on mental health. Students also had the opportunity to actively engage in online discussions and use the e-counselling service to anonymously email questions to counsellors. The online platform was developed and managed by staff at the university counselling service and the content covered: 1) stress at university; 2) depression in students; 3) academic distress/anxiety; and 4) establishing a social hub. In another pilot study, Schleicher et al. (2012) described a CBT programme for students with depression intending to quit smoking. The intervention was adapted from a 12-week group therapy program for patients with major depression recovering from alcoholism.

The original intervention drew on concepts from counselling, CBT and mood management. The adapted version included 6 sessions that addressed behavioural, motivational and cognitive aspects of smoking. Sessions were catered to the groups' needs and session plans were moderated by independent therapists. Group leaders were graduate level clinical psychology students who received training and regular supervision throughout the intervention. The programme incorporated group discussions with training in relaxation and self-monitoring to teach students how to detect and manage smoking related triggers. The intervention focused on linking emotion to behavioural triggers for smoking to encourage students to view smoking as a behaviour they could change. Solutions for behaviour change were explored with CBT techniques whilst group discussion was used to allow students to better understand their behavioural triggers. Students completed mood diaries throughout the duration of

the intervention to help distinguish their smoking triggers and diary content was discussed in group sessions.

Group sessions also taught relaxation techniques to provide a range of exercises students could use outside of sessions. By the end of the intervention, students learned how to create a personalised plan to help them to quit smoking and were taught to be more accepting if relapse occurred. Depression and substance misuse were explored in a second pilot study that enhanced a depression and alcohol misuse programme for university students (Reynolds, MacPherson, Baruch, Tull, & Lejuez, 2011). The enhanced programme was piloted alongside the standard programme already available at the university. The standard programme (Treatment As Usual/TAU) lasted 15-weeks and included group discussions on university life including: academic achievement, career aspirations, campus safety, international study, sexuality and diversity. Throughout the programme students completed weekly diaries to record and reflect on their adjustment.

The enhanced programme (intervention) replicated the standard programme, but replaced diary sessions with behavioural activation techniques adapted from a more extensive version of Behavioural Activation Treatment for Depression (BATD). During weeks 1-4 students were taught techniques to promote positivity during university life and to monitor enjoyment in daily activities. Beyond week 5 students continued to reflect on their achievements from previous weeks and plan for further development. The programme was delivered by research assistants blind to the study intentions. Intervention fidelity was monitored by developers of the original BATD programme. Both the standard and enhanced orientation programmes were available to all students irrespective of whether they participated in the pilot. The final pilot study explored whether increasing physical activity and self-efficacy could improve symptoms of depression and anxiety (Mailey, 2010).

The intervention was employed alongside counselling to explore whether the online physical activity programme could enhance therapy outcomes in students. The online programme lasted 10-weeks and required students to wear an activity monitor to track their physical activity. The activity monitor synchronised with the online platform to allow students to view their progress and set new fitness goals. Online content applied social cognitive theory to provide information on: 1) the advantages of an active lifestyle, 2) the influence of self-efficacy on personal achievement, 3) anticipating and overcoming issues of being physically active, and 4) maintaining a physical lifestyle.

Alongside the online programme, students received face-to-face counselling sessions once a month throughout the 10-week programme. During counselling sessions, students' weekly activity logs were reviewed and personalised feedback was provided to address any challenges experienced during the programme.

In line with the pilot interventions discussed so far, two further studies explored adapted versions of alternative therapeutic techniques within the student counselling setting. The first explored the feasibility of implementing an adapted art therapy programme previously employed in NHS primary care (Margrove, 2013). The programme included 12 weekly group sessions that taught different artistic techniques with optional certification. The programme did not intend to teach students about mental health and had no therapeutic content; instead the programme aimed to improve overall wellbeing and social acceptance. Wellbeing and social inclusion were measured pre-post intervention, but concurrent counselling attendance was not controlled. Another study that explored alternative therapeutic methods piloted the use of Behavioural Relaxation Training (BRT) in reducing test anxiety in university students (Tatum, Lundervold, & Ament, 2006). The adapted version offered two group sessions that taught students 10 relaxing behaviours and was delivered by an undergraduate psychology student. Participants were allocated based on their availability whereby students unable to attend group training formed the 'no treatment' control group. Maths anxiety was measured pre-post intervention to assess behaviour change.

The two final studies explored pilot and feasibility aspects of implementing a new programme in a university counselling setting (Bauer et al., 2009; McVey, 2010). In McVey's (2010) study, a body image programme was implemented at three university sites as part of an existing health promotion programme. In-house health promotion staff were trained to deliver the programme and adjusted the programme to compliment students. The adjustments involved changing the structure to accommodate students' existing academic commitments and catering the content to be more applicable to students' lifestyles. The programme was delivered over two 3-hour sessions and included videos with interactive discussions alongside the taught material. Session 1 educated students on unrealistic media portrayals of body shape and session 2 taught techniques for resolving external stressors that negatively impact on body image. Body satisfaction and internalisation of media body portrayal were measured pre-post intervention, and both students and facilitators provided feedback on their experiences.

The final study also explored the feasibility of implementing a body image intervention delivered online as a screening tool (Bauer et al., 2009). The aim of the online programme was to monitor students' risk for eating disorder and to cater for the type and severity of their treatment. For instance, if students' symptoms developed beyond the capability of the online programme, they were referred to more intense face-to-face support (i.e. stepped care service model). The online tool aimed to be multifaceted to cater for individual needs overtime and offered access to: 1) online self-help; 2) psychoeducation; 3) online guided discussions; 4) online counselling; 5) peer-led support; and 6) face-to-face counselling. Students registered online and completed screening questionnaires before accessing self-help content and online forums. The online forums were anonymous and monitored by counsellors from the university counselling service who were alerted when students met criteria for eating disorder.

2.8 Outcome measures

Eleven distinct topics within student counselling were measured across all articles that were described using 68 different outcome measures. Figure 2.2 provides a summary of measures split by topic and Table 2.3 provides a complete list of measures employed across the studies included in the review (see Reference section 2 for full references for measures).

2.9 Quality checklist

An adjusted version of Downs and Black's (1998) quality index was used to rate the research quality across RCT, pilot and non-RCT studies. The index comprises 27 items that assess the quality of reporting, external validity, bias, confounding factors and power. A breakdown of quality ratings is summarised in Table 2.4 Quality ratings were completed by researcher EB and a sub-sample of studies were quality rated by an independent researcher (SC) as detailed in the next section (see Appendix B2 for item level quality ratings). Inspection of Table 2.4 shows that RCT designs achieved the highest overall quality score, followed by pilot and non-RCT designs. Within the quality criteria, all study designs scored highly on the reporting standards that concern questions about whether the aims, underlying theory, measured outcomes, participant characteristics and intervention factors were adequately described.

Figure 2.2. Summary of 68 outcome topics measured in student counselling articles 2005-2015
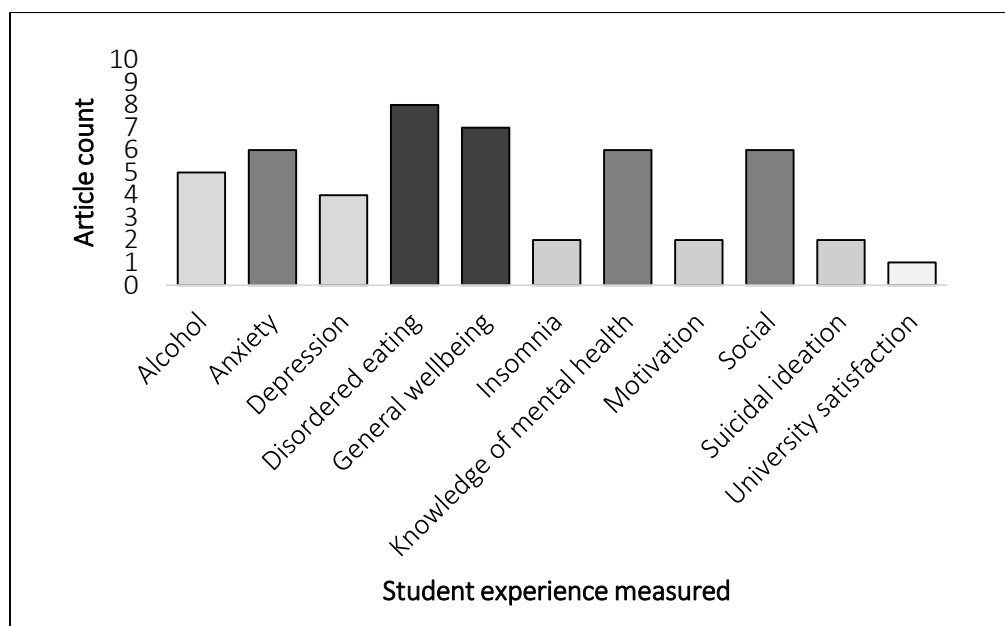
Regarding external validity and the extent to which findings can be generalised beyond the study, RCT and pilot studies scored equally well (2/3). Quality ratings concerning bias and confounding variables address research factors such as blinding (or adjusting for differences for non-RCT), potential bias from outcome groups, using appropriate statistical analyses, and accurate reporting of outcome measures. RCT designs scored highly on these factors, with both pilot and non-RCT designs only meeting an average of 50% of criteria. According to the power criteria on the quality checklist, pilot studies scored the lowest with RCT designs and non-RCT designs achieving half of the marks. However, according to Cohen's (1992) power primer, three of the eight RCTs in the review were not adequately powered (Taylor-Rogers and Batterham, 2014; Tillfors et al., 2008; and Stice et al., 2014).

2.9.1 Inter-rater reliability on quality assessment

Following the initial quality rating (by EB), a subset of 6 studies (24%) comprising 2 RCTs, 1 pilot study and 3 non-RCTs and were rated by an independent researcher (SC). At the time, SC was a third year PhD student in the psychology department of the University of Sheffield. SC was a mature student completing a statistics doctorate and she had previously completed a systematic review as part of her own thesis. Kappa values were calculated to determine the level of agreement between the two raters and inspection of Table 2.5 shows substantial to perfect agreement between raters with Kappa values ranging 0.48-1.00 for quality items (see Landis & Koch, 1977).

Table 2.3. List of 68 measures used across 25 review articles (2005-2015) including validated clinical outcome measures and ordered alphabetically by topic measured

Author	Year		Measures
Academic			
Lee	2009	1.	Historical academic data (pre-university grades)
		2.	Discrepancy between predicted and actual credits
		3.	Total number of counselling sessions received
		4.	Types of counselling received
Locklard	2013	1.	Counselling Centre Assessment of Psychological Symptoms (CCAPS-34)*
		2.	CCAPS-34 Academic Distress Subscale
	*Count	1	
Anxiety			
Stewert	2014	1.	Burns Anxiety Inventory (BAI-33)*
		2.	University of Philippines Loneliness Assessment Scale (UPLAS-25)*
		3.	Session Rating Scale (SRS-4)*
		4.	In-house Open-ended Evaluation Form
Tatum	2006	1.	Subjective Unit of Discomfort Scale (SUD-10)*
		2.	Abbreviated Test Anxiety Scale (ATAS-9)*
Tillfors	2008	1.	Liebowitz Social Anxiety Scale (LSAS)*
		2.	Social Phobia Scale (SPS)*
		3.	Social Interaction Anxiety Scale (SIAS)*
		4.	SPSQ for social phobia*
		5.	MADRS-SR*
		6.	Quality of Life Inventory (QOLI)*
	*Count	11	
Borderline personality disorder			
Meaney-Tavares	2013	1.	Beck Depression Inventory (BDI-II)*
		2.	Beck Anxiety Inventory (BAI)*
		3.	Coping Scale for Adults (CSA-74)*
		4.	Clinician diagnosed BPD
Pistorello	2012	1.	Structured Clinical Interview to diagnose Axis-I disorders
		2.	Treatment Credibility Questionnaire (in-house)
		3.	Structured Clinical Interview for Personality Disorders (SCIDII)
		4.	Suicide Attempt Self-Injury Interview (SASII)*
		5.	Beck Depression Inventory-II (BDI-II)*
		6.	Suicidal Behaviours Questionnaire (SBQ-23)*
		7.	Social Adjustment Scale (SAS-SR 54)*
		8.	Global Assessment of Functioning (GAF)*
	*Count	8	

Table 2.3. (cont'd) List of 68 measures used across 25 review articles (2005-2015) including validated clinical outcome measures and ordered alphabetically by topic measured

Author	Year	Measures
Depression		
Chung	2011	1. Patient Health Questionnaire-9 (PHQ-9)*
Cukrowitz	2009	1. Beck Depression Inventory-II (BDI-II)*
		2. Beck Anxiety Inventory (BAI-21)*
		3. Positive and Negative Affect Schedule (PANAS NA-10)*
		4. Inventory to Diagnose Depression Past (IDDP-22)*
		5. Structured Clinical Inventory for DSM-IV
		6. Depression Severity Index Suicide Subscale (DSI-SS-4)*
		7. Insomnia Severity Index (ISI-7)*
		8. Disturbing Dreams and Nightmares Severity Index (DDNSI-5)*
Geisner	2015	1. Alcohol Use Disorders Identification Test (AUDIT)*
		2. Beck Depression Inventory-II (BDI-II)*
		3. Daily Drinking Questionnaire (DDQ)*
		4. Rutgers Alcohol Problem Index (RAPI)*
Mailey	2010	1. Actiwatch device worn for 7-days (objective activity)
		2. Exercise Self-Efficacy Scale (EXSE)*
		3. Barriers Self-Efficacy Scale (BARSE)*
		4. State Trait Anxiety Inventory (STAI)*
		5. Beck Depression Inventory-I (BDI)*
Reynolds	2011	1. Depression subscale of (DASS-21)*
		2. Alcohol Use Disorders Identification Test (AUDIT)
Schleicher	2012	1. Timeline follow-back (TLFB) a method taught to participants to retrospectively recall number of cigarettes smoked
		2. Four individual questions targeting motivation
		3. Beck Depression Inventory II (BDI-II)
		4. Client Satisfaction Questionnaire (CSQ-8)*
Richards	2008	1. Client Satisfaction Inventory Short Form (CSI-SF)*
		2. Number of sessions
		3. Number of views of online feedback
	Count	*19*
Eating concerns and body image		
Bauer	2009	1. Weight Concerns Scale (WCS)*
Beintner	2014	1. Potential moderators of intervention effects
		2. Country of trial
		3. Use of incentive during trial
Kass	2014	1. Weight Concerns Scale (WCS)*
		2. Eating Disorder Symptoms (EDS)*
		3. Beck Depression Inventory-II (BDI)*
		4. Motivation/Expectation Scale (MES)*
		5. Objective Body Mass Index (BMI)

Table 2.3. (cont'd) List of 68 measures used across 25 review articles (2005-2015) including validated clinical outcome measures and ordered alphabetically by topic measured

Author	Year	Measures
McVey	2010	1. Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ)*
		2. Body Satisfaction Scale (BSS-6)*
Stice	2014	1. Ideal Body Stereotype Scale-Revised (IBSS-R-6)*
		2. Satisfaction and Dissatisfaction with Body Parts Scale (SDBPS-9)*
		3. Dutch Restrained Eating Scale (DRES-10)*
		4. Beck Depression Inventory-II (BDI-II)*
		5. Eating Disorder Diagnostic Interview (EDDI)*
	Count 12	

Online counselling or resources (general)

Author	Year	Measures
Efstathiou	2009	1. Popularity of web-counselling
		2. Quality of written communication
		3. Feedback
		4. Response time
Richards	2009	1. In-developed service assessment form (not provided)
		2. Qualitative analysis on discussion board content
Count	*0*	

Well-being and help-seeking

Author	Year	Measures
Austenfeld	2006	1. Emotional Approach Coping (EAC-4)*
		2. Centre for Epidemiologic Studies Depression Scale (CES-D)*
		3. PANAS-X*
		4. Pennebaker Inventory of Limbic Languidness (PILL-9)*
		5. System data on visits for medical help
		6. In-house programme evaluation (7 items)
Margrove	2013	1. Warwick Edinburgh Mental Wellbeing Scale (WEMWS-14)*
		2. Social Inclusion Scale (SIS-12)*
Short	2011	1. Daily Drinking Questionnaire (DDQ)*
		2. Quantity-Frequency Questionnaire (QFQ)*
		3. Young Adult Alcohol Problems Screening Test (YAAPST-17)*
		4. Intervention satisfaction
		5. Motivational Interviewing Skills Code (MISC)*

Table 2.3. (cont'd) List of 68 measures used across 25 review articles (2005-2015) including validated clinical outcome measures and ordered alphabetically by topic measured

Author	Year		Measures
Taylor-Rogers	2014	1.	Anxiety Literacy (A-Lit-22)*
		2.	Depression Literacy (D-Lit-22)*
		3.	Literacy of Suicide Scale (LSS-22)*
		4.	Depression Stigma Scale (DSS-9)*
		5.	Generalised Anxiety Stigma Scale (GASS-10)*
		6.	Stigma of Suicide Scale (SOSS-16)*
		7.	Attitudes towards Seeking Professional Help Short Form (10 items)
		8.	General Help Seeking Questionnaire
		9.	Generalised Anxiety Disorder Scale (GAD-7)*
		10.	Patient Health Questionnaire-9 (PHQ-9)
		11.	Treatment satisfaction statements
	Count	17	
	Total	68	

*Validated measures (see extended reference list)

The weakest agreement is for the total quality rating which was also subject to the most variation (i.e. scored out of 29). Related, the strongest agreement was for power, which is subject to the least variation (i.e. scored out of 2).

2.10 Main findings

2.10.1 Eating disorders and body concerns (n = 5)

Five studies explored issues related to eating disorders and body image concerns within the student population including two RCTs (Kass et al., 2014; Stice et al., 2014), two pilot or feasibility studies (Bauer et al., 2009; McVey et al., 2010), and a meta-analysis (Taylor, 2014). Findings demonstrated that online guided discussion enhanced treatment outcomes with participants being 67% less likely to have weight concerns compared to a control group (Kass et al., 2014). Participants also spent significantly more time viewing online content compared to the unguided discussion group, and adherence (i.e. the number of pages viewed) was a significant predictor for drive to be thin (Taylor, 2014).

Table 2.4. Quality ratings for RCT, pilot and non-RCT designs included in the review of 25 studies of student counselling, ordered by the total quality rating

		Quality ratings for RCT designs					
Author	N	Reporting (13)	External Validity (4)	Bias (7)	Confounding (6)	Power (2)	Total (32)
RCT							
Pistorello	63	10	2	7	4	1	24
Austenfeld	64	8	3	7	3	2	23
Kass	151	10	1	5	6	1	23
Stice	437	8	1	7	4	2	22
Short	358	8	3	6	3	1	21
Taylor-R	67	8	2	5	5	1	21
Tillfors	38	8	2	5	5	1	21
Geisner	311	8	2	3	3	1	17
Median	*109*	*8*	*2*	*6*	*5*	*1*	23
SE	*52.38*	*0.25*	*0.25*	*0.31*	*0.35*	*0.17*	0.35
Pilot							
Mailey	47	8	3	6	4	1	22
Schleicher	58	7	3	7	3	1	21
McVey	37	8	1	5	4	2	20
Meaney	17	9	2	3	4	0	18
Reynolds	71	6	2	4	4	2	18
Margrove	15	7	1	3	2	0	13
Stewert	55	7	2	3	1	0	13
Chung	801	5	2	3	1	0	11
Richards	389	4	1	2	2	0	9
Median	*55*	*7*	*2*	*3*	*3*	*0*	17
SE	*83.30*	*0.49*	*0.26*	*0.52*	*0.41*	*0.34*	1.49
Non-RCT							
Cukrowicz	238	8	3	4	5	0	20
Bauer	279	6	3	2	2	1	14
Lee	4645	8	1	4	1	0	14
Locklord	1796	8	1	3	2	0	14
Beintner	990	7	1	3	2	0	13
Tatum	20	6	1	2	2	1	12
Richards	50	4	1	2	2	0	9
Efstathiou	-	0	0	0	0	1	1
Median	*279*	*6.5*	*1*	*2.5*	*2*	*1*	14
SE	*584.44*	*0.91*	*0.39*	*0.43*	*0.48*	*0.48*	1.38

In ethnic minority students, a face-to-face group-based intervention for reducing thin ideation (*Body Project*) was shown to be equally effective for female students who identified as European American, African American, Asian American or Hispanic (Stice et al., 2014). A third online early detection programme for eating disorders ('ES[S]PRIT') successfully identified sub-clinical students whereby 73% (of 116) of students detected to be at risk of eating concerns subsequently met sub-clinical threshold for an eating disorder and were referred early for embedded counselling (Bauer et al., 2009). The final pilot study of a body image programme led to a significant increase in body satisfaction post-intervention as well as a significant decrease in thin ideation (McVey et al., 2010). Participant feedback further indicated that adherence was optimised by adapting the programme to suit students' academic commitments.

2.10.2 Substance misuse (n = 4)

Four studies explored comorbid substance use (alcohol or smoking) with depression including two RCTs (Geisner et al., 2015; Short et al., 2011) and two pilot studies (Reynolds et al., 2011; Schleicher et al., 2012). The first and most recent RCT of brief online psychoeducation successfully reduced students' alcohol consumption, but only for those with mild depression scores at baseline (Geisner et al., 2015). A second RCT exploring clinician continuity in a programme targeting negative consequences of alcohol use found no significant differences between same-clinician and different-clinician groups on any of the outcome measures (Short et al., 2011). The authors added caution, however, and speculated that these results were due to the training quality likely optimising standardisation and diluting potential variance across clinicians. The third study piloted an enhanced behavioural activation programme targeting comorbid depression and alcohol problems in newly enrolled university students (Reynolds et al., 2011).

Results indicated that students who received behavioural activation training displayed a mild improvement in depression scores, were less likely to reach the clinical membership, and reduced negative consequences of alcohol use compared to students who attended group diary sessions. The final study piloted an intervention addressing comorbid depression and smoking which compared a programme targeting mood and smoking habits against a control programme promoting nutrition (Schleicher et al., 2012). Students in the intervention group significantly reduced their smoking compared to the nutrition control group, but this was not sustained at 3-months and very few had quit smoking.

Table 2.5. A comparison of quality ratings of a sample of 6 from the total 25 articles of student counselling study designs, assessed across two quality raters and ordered alphabetically

| | | Quality ratings across reviewers | | | | | | | | | | | |
| | | Reporting (13) | | Validity (4) | | Bias (7) | | Confounding (6) | | Power (2) | | Total (32) | |
Author	Design	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
Beintner	Non-RCT	7	8	1	1	3	2	2	2	0	0	13	13
Geisner	RCT	8	7	2	2	3	3	3	3	1	1	17	16
Kass	RCT	10	10	1	1	5	5	6	6	1	1	23	23
Lee	Non-RCT	8	8	1	1	4	4	1	2	0	0	14	15
Meaney	Pilot	9	10	2	3	3	2	4	3	0	0	18	18
Richards	Non-RCT	4	4	1	1	2	2	2	2	0	0	9	9
	Mean	7.67	7.83	1.33	1.5	3.33	3	3	3	0.33	0.33	15.67	15.67
	Difference	-0.17		-0.17		0.33		0.00		0.00		0.00	
	Kappa	0.68		0.74		0.65		0.68		1		0.82	
	p value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001		0.012	

R1 = EB; R2 = SC.

2.10.3 Academic outcomes (n = 2)

Only two articles explored academic outcomes from counselling using historical service data (Lee et al., 2009; Locklard et al., 2013). The first analysis of over 10,000 students found a significant relationship between counselling and student retention whereby students who attended counselling also attended more university classes compared to students who did not seek counselling (Lee et al., 2009). Moreover, the group that received one-to-one counselling alongside group counselling obtained the highest academic grades followed by students who only received one-to-one counselling and those who received one-to-one counselling and general psychological advice. There were no significant relationships between number of counselling sessions and any of the academic outcomes. The second analysis was on a national dataset from the Center for Collegiate Mental Health (CCMH), which explored the effectiveness of counselling on academic distress in ethnic minority students (Locklard et al., 2013). Findings indicated that academic distress was significantly reduced following embedded counselling for American and ethnic minority students, with Asian students showing the least improvement.

2.10.4 Depression, suicide and BPD (n = 4)

Four studies explored depression and factors related to depression including two RCTs (Pistorello et al., 2012; Taylor-Rodgers & Batterham, 2014) and two pilot studies (Chung et al., 2011; Meaney-Tavares & Hasking, 2013). The first RCT explored the effectiveness of DBT at reducing suicidal ideation and depression in students with BPD and found that DBT significantly reduced suicide ideation, acts of self-harm, depression, BPD symptoms and psychotropic medication dosage compared to the standard treatment (Pistorello et al., 2012). Students in the DBT group also showed a significant improvement in social adjustment and this was sustained at the 18-month follow-up, whereby students with poorer functioning at baseline benefitting the most from DBT. However, both the DBT and standard treatment were delivered by external clinicians in the trial (i.e. not in-house).

The efficacy of DBT in students with BPD was also explored in a pilot study using in-house counsellors (Meaney-Tavares & Hasking, 2013). The pilot study assessed pre-post intervention measures in a sample of 17 Australian university students diagnosed with comorbid BPD with major depression and participated in weekly self-injurious behaviour. Per-protocol analysis revealed a significant decrease in clinical depression

scores post intervention with only 27% of students reaching severe depression scores, compared to 65% at baseline. A 23% reduction was also observed in clinical anxiety as well as an overall reduction in BPD symptoms, but this failed to be significant. Students did, however, demonstrate reliable change for BPD (40% of sample), depression (59%) and anxiety (12%) within the 8-week programme. In total, 94% of participants also stopped self-harm during the programme and all participants demonstrated a significant increase in coping skills, help-seeking, and self-protection with a significant reduction in self-blame.

A second RCT explored whether online psychoeducation could increase help-seeking behaviours for depression, anxiety and suicide (Taylor-Rodgers & Batterham, 2014). Online psychoeducation significantly increased knowledge and help-seeking for anxiety compared to the control group. However, there were no group differences in actual anxiety levels. Online psychoeducation also reduced stigma for depression, but did not improve knowledge for depression. Psychoeducation also failed to alter knowledge or stigma for suicide. The final study piloted a service development programme across six universities to improve treatment monitoring and outcome for students with depression (Chung et al., 2011). By using clinical measures to routinely screen and monitor students' depression symptomology, 94% of students (total n = 801) received treatment within 4-weeks of clinical diagnosis for depression which was earlier than standard practice. Moreover, of those who received treatment for depression, 35% were ethnic minority students, which was higher than the service had experienced before using clinical measures to inform assessment.

2.10.5 Anxiety and Social Phobia (n = 2)

Two studies explored factors related to anxiety in students including a quasi-experiment on test anxiety and animal assisted therapy for social phobia. The first study explored Behavioural Relaxation Training (BRT) for reducing test anxiety at an American university (Tatum et al., 2006). Students in the BRT group significantly reduced their scores on test anxiety compared to the 'no treatment' control group. However, students were assigned to the intervention based on their availability and only 20 students could participate. Due to the simplicity of the design and limited information reported in the study, findings must be interpreted with caution. The second study piloted Animal Assisted Therapy (AAT) with the aim of reducing anxiety and loneliness in students (Stewart et al., 2014). Results indicated that simply interacting with dogs led to a

significant reduction in anxiety and loneliness compared to baseline, even though the intervention did not have therapeutic content.

2.10.6 Alternative methods in student counselling (n = 2)

Two studies employed alternative therapeutic methods in a student counselling setting including a UK pilot study on art therapy (Margrove, 2013) and an RCT on emotional writing (Austenfeld et al., 2006). Findings from the art-therapy intervention revealed a 4-point improvement for measures on wellbeing and social integration, but the result was not significant (n = 7). The programme additionally experienced a 50% dropout rate, which, according to student feedback, was due to existing academic commitments that prevented participation in the programme. The second study employed an RCT design to explore the impact of emotional writing on wellbeing in third-year medical students (Austenfeld et al., 2006). Writing emotionally about experiences from medical placements significantly reduced hostility compared to writing factually and writing about one's best-future-self. Students randomised to write about their best-future-self also showed a significant reduction in depression scores and healthcare utilization at follow-up.

2.10.7 Online interventions (n = 6)

Nine of the total 25 eligible articles described methods that integrated online tools within student counselling (Bauer et al., 2009; Beintner et al., 2014; Chung et al., 2011; Efstathiou, 2009; Mailey, 2010; Richards, 2009; Richards & Tangney, 2008; Stewart et al., 2014; Tillfors et al., 2008). Amongst the studies described so far, online tools have been used to target eating disorders, body image, alcohol responsibility, and depression. Beyond the interventions, online tools have also been used for early detection, stigma reduction and for providing a gateway to further therapeutic support. A further six studies explicitly focused on a range of online interventions within one RCT (Tillfors et al., 2008), four pilot studies (Chung et al., 2011; Mailey, 2010; Richards & Tangney, 2008; Stewart et al., 2014) and a feasibility study (Richards, 2009). One RCT aimed to test the efficacy of online CBT combined with face-to-face group exposure for students diagnosed with social phobia (Tillfors et al., 2008). Students significantly reduced their social phobia if they were randomised to either the online CBT or online CBT combined with face-to-face group therapy, compared to a waitlist control. The reduction in social phobia was also sustained at 1-year follow-up for both intervention groups. There were

no within-group differences for social phobia, retention or satisfaction at any time point and the authors reported that online CBT achieved effect sizes comparable with traditional face-to-face CBT (Tillfors et al., 2008).

An earlier pilot study explored the use of brief computerised psychoeducation as a prevention programme for students with major depression and/or anxiety (Cukrowicz et al., 2009). Students who completed the programme demonstrated a significant reduction in depression, anxiety and negative affect compared to students in the control group who received advice alone. However, this pattern was not replicated for students with comorbid issues for depression and insomnia, anxiety and post-traumatic stress disorder (PTSD), or suicide and negative affect. A second pilot study explored the application of an online community offering psychoeducation and encouraging help-seeking in students (Richards & Tangney, 2008). Exploration of meta-data from online discussion platforms revealed that students rated their experience positively and found the content to be educational. Students who viewed the discussion boards without participating in the comments also rated their experience to be positive and educational, suggesting the potential benefits for passive participation from students who are less likely to actively seek help.

Richards and Tangney (2008) followed with a second pilot study exploring email counselling that anonymously shared content on a student counselling website (Richards, 2009). A total of 50 mental health related questions were emailed to counsellors and viewed by a further 7,141 unique student users once posted on the counselling website. Content analysis revealed that students raised related questions in the emails as observed in face-to-face sessions and students reported their questions to be understood well by counsellors. Moreover, the majority of emails were sent outside office hours, during evenings (77%) and weekends (29%). A further 23% of students using the online service later sought face-to-face counselling suggesting that online resources encouraged students to seek help who would be less likely to approach the counselling service first-hand. Online meta-data was explored in more detail from an online university counselling service in Athens (Efstathiou, 2009). Analysis of service data revealed that students sought support from online counselling twice as much as face-to-face counselling, although the precise numbers were not provided. A total of 1743 students emailed questions to the counselling service, which was viewed by a further 161,612 unique student users across 45 months.

Efstathiou (2009) further speculated that the acceleration of online views during this period was attributed to a search engine phenomenon that ranks websites in order of popularity linked to a range of search terms. In other words, the more students searched for psychological symptoms and were directed to the counselling website, the more likely the counselling website would be viewed by other students searching similar terms. Online support was also shown to help manage demand more effectively as 15.5% of students (total n=161,612 in 45 months) claimed that the online posts had resolved their issue and no longer felt the need to seek face-to-face support. The final study explored the feasibility and effectiveness of an online physical activity programme integrated with face-to-face counselling for improving student mental health (Mailey, 2010). Results indicated that students who received face-to-face counselling and had access to an online platform with information proving physical activity, did in fact increase physical activity significantly more than students who only received counselling. Increasing physical activity was also significantly associated with increased self-efficacy and decreased depression only in the intervention group. However, self-efficacy reduced overtime.

2.11 Discussion

Reviewing the evidence on embedded student counselling from the last decade identified five key findings within the literature: 1) therapeutic interventions have typically been adapted from longer and/or more intense treatments and altered to suit students; 2) the resulting therapeutic interventions have been informed by a range of therapeutic models; 3) the process of adaptation has often involved adjusting content to suit academic needs and to fit around the academic timetable; 4) interventions have often been blended (e.g. counselling plus online discussion) to counteract the restrictions of the HE setting; and 5) student services have used various technologies to complement existing support and extend access. A range of design implications were also raised including an extensive list of potential outcome measures that have been used to assess various student experiences (e.g. anxiety, eating concerns, alcohol use) and often administered pre-post with limited follow-up data. Emphasis was also on training in-house staff to adjust and deliver the interventions, which not only supported students' acceptability of the intervention, but also the success of implementation by therapists.

In line with Connell et al.'s (2006) review, there is still limited evidence from the UK and the specificity of findings combined with limited power continues to limit the

generalisability of evidence. The current review extends findings from Connell et al. (2006) by quality rating the research design of review articles and by using Cohen's (1992) power primer to determine whether RCTs were adequately powered. Differences also emerged from comparisons with Connell et al. (2006) including increased use of CBT methods in student counselling, increased use of pilot and RCT designs, and a prominent use of technology either blended with face-to-face or as a standalone. Initial stages of the review identified that few studies explicitly referenced counselling or psychotherapy and this was particularly true for RCTs, however three of the eight RCTs were not sufficiently powered despite comparing interventions to active controls.

The therapeutic interventions described in the review articles emerged as an amalgamation of therapeutic strategies employed to address a range of student needs. For instance, although the review only identified 25 relevant articles, many therapeutic strategies were described including: cognitive behavioural therapy, cognitive behavioural analysis system of psychotherapy, dialectical behavioural therapy, behavioural activation treatment for depression, behavioural relaxation training, group exposure therapy, mindfulness, and mood management training. Further variation was introduced when studies described the types of student distress being addressed and the outcome measures used to monitor change. Regarding student distress, studies described interventions that addressed eating concerns, substance misuse, academic distress, stress, adjustment to university, insomnia, hostility, anxiety, depression, suicidal ideation and more.

Unsurprisingly, when studies described the types of clinical outcome measured used to monitor student distress, 68 different measures were listed with little to no replication across studies. The range of interventions, areas of student distress, and types of clinical outcome measures applied create difficulties in building evidence for student counselling services and likely contributes to the limited evidence available to date. The complexity of student mental health needs and variation of therapeutic interventions have additionally created design challenges, with many of which lacking adequate power. Numerous studies anticipated the potential design challenges and provided strategies to support the delivery and evaluation of the intervention. For example, successful studies emphasised the importance of building strong relationships between researchers and clinicians to support the development and implementation of the interventions.

Related was the emphasis to provide training on the intended intervention to not only support standardisation but to also involve services and clinical staff with research at the earliest possible stage. Several authors proposed that the success of an intervention was due to the level of attention given to including in-house therapists with the research process, which also contributed to the longevity of an intervention beyond the research study. As well as involving therapeutic staff, few studies raised the importance of using student feedback either during the development stage of an intervention or responding to student feedback following evaluation of an existing intervention. In contrast to piloting or evaluating a therapeutic intervention, studies also highlighted the merit of using service data and national datasets. Using existing data, two studies in the review demonstrated that embedded counselling significantly improved students' retention at university, which led to better academic performance than students not receiving counselling (Lee et al., 2009).

Similar analyses also demonstrated that counselling significantly reduced academic distress in international students across many ethnic groups (Chung et al., 2011). Another study in the review used a national dataset to benchmark students' clinical scores from an online screening tool and not only provided personalised feedback but also encouraged help-seeking behaviour (Geisner et al., 2015). Data from online screening tools have also been used to detect early risk indicators and support earlier referrals to counselling (Bauer et al., 2009). The use of online screening tools, discussion forums, and psychoeducation have also been used to supplement existing types of support and led to enhanced outcomes. For example, online discussion between psychoeducation sessions improved student engagement and clinical outcomes (e.g. Kass et al., 2014), however and despite using an RCT design, it was not adequately powered and the validity of these findings is therefore preliminary.

Online psychoeducation has also been shown to reduce negative outcomes from substance misuse, which has been replicated in students with mild depression and shown to encourage help-seeking for anxiety and depression (Geisner et al., 2015; Reynolds et al., 2011; Schleicher et al., 2012). Help-seeking was an unanticipated behaviour raised in the review with a range of studies evaluating interventions to encourage help-seeking rather than treat a mental health issue. In broader terms, most studies identified the importance of therapeutic interventions being flexible to fit around the academic timetable and students' academic commitments. In most examples interventions were shortened, offered in the evening, or supported with an

online component to make it easier to attend counselling without compromising academic commitments. Other examples provided email prompts to remind and encourage students to attend counselling sessions and made contact via telephone or text message when a session had been missed. Problems with help-seeking were addressed more directly in two studies by offering online resources to students to access before approaching the counselling service to intervene at an earlier stage of the decision process. Interestingly, issues with help-seeking and engagement were apparent in studies that did not adjust therapeutic interventions and instead offered support in the same way as a psychological service for the general population.

By not adjusting the programme structure or content, some studies experienced a 50% dropout rate, struggled with recruitment, or were shown to be unsustainable beyond the research study. Issues with engagement were additionally experienced from therapeutic staff if they had not been appropriately trained or engaged in the research process early on. A second unanticipated finding was the prominent use of technology throughout the studies even though reviewing the use of technology was not an aim of the review. Almost half of the studies used technology either independent of face-to-face or in addition to supplement existing interventions. The overwhelming rational for using technology within the student counselling setting was to cater to students' availability and widen access to hard to reach individuals. Several uses of technology were described including online: forums, self-help, communities, inter-session homework, registration, screening tools, personalised feedback, email prompts and email counselling. Interestingly, technology wasn't proposed as a replacement to face-to-face interventions even in studies that focused on online psychoeducation.

By contrast, studies emphasised the possibilities of technology in extending therapeutic services and supplementing traditional methods. Whilst the studies employing technology appeared to be successful in terms of outcomes, the quality of reporting and research design were mixed. One third of studies employing technology scored highly during the quality assessment and this was true even when compared to studies that hadn't used technology (i.e. RCTs). However, two thirds of studies using technology scored less than half of the total possible quality rating. The low-quality rating may be due to using a checklist catered more for assessing pilot and RCT designs. However, studies using technology would nonetheless benefit from improving the

reporting quality to provide evidence that heads of service can trust when deciding whether to adopt technology.

2.12 Chapter summary

Reviewing the literature on student counselling services from the last decade demonstrated the importance of adopting a multifaceted approach that is flexible and responsive to students' needs. Large variation emerged across articles that addressed diverse types of student distress, incorporated a range of therapeutic strategies, and offered interventions through a range of formats. This level of adaptability appears characteristic of student counselling services, which is required to suit students' availability. Unfortunately, the review also highlighted a lack of research from the UK that is likely contributed to by inconsistencies in the types of data being collected as well as the large variety of clinical measures that could be used to monitor student distress. Of the evidence that was provided, merit was shown in the use of large datasets from existing services and national datasets, but the quality of reporting needs improving. Two unexpected themes emerged regarding the prominent use of technology in student counselling services and a recognised issue with student help-seeking behaviour. Taken together these findings suggest that student mental health is complex and supporting their needs requires a flexible blended approach that engages both therapeutic staff and students alike.

Chapter 3: Challenges to addressing student mental health in embedded counselling services in UK Higher and Further Education Institutions

3.1 Chapter overview

The latest policy recommendations emphasise the need to collect evidence to demonstrate how embedded counselling services contribute to students' ability to cope at university. The latest evidence from the scientific literature in Chapter 2 revealed that there are large variations in the ways in which counselling services measure student mental health, and in the ways research has been designed to explore the effectiveness of student counselling. The current Chapter aims to extend findings from the scientific literature by analysing the latest available data from UK embedded counselling services.

By doing so, Chapter 3 aims to characterise the current state of the student counselling sector and to inform the direction of future research within and beyond the current thesis. In addition to collecting service data, Chapter 3 also aims to explore current uses of technology in student counselling to understand how technology is being used to support services, if at all. Interest in using various therapeutic technologies will be explored in more detail by discussing the current and future intended use of technology with heads of service.

The current Chapter has been divided into two sections for clarity: the first section comprises a study reporting on a survey of UK Higher and Further Education Institutions, and the second section presents a study comprising follow-up telephone interviews with heads of counselling services to explore the current use of technology in student counselling services. The survey of UK embedded counselling services has been published with the full citation being:

Broglia, E., Millings, A., & Barkham, M. (2017). Challenges to addressing student mental health in embedded counselling services: a survey of UK higher and further education institutions. *British Journal of Guidance & Counselling*. doi: 10.1080/03069885.2017.1370695. It has been adapted slightly for the thesis.

Chapter 3A: A survey of UK Higher and Further Education Institutions

3.2 Introduction

In the UK, student mental health within Higher Education Institutions (HEIs) has been at the forefront of the political agenda with recommendations from the Higher Education Policy Institute (HEPI) to collect institutional data on mental health services (see Brown, 2016). Many reports have highlighted the growth of the student population alongside increased demands for student counselling (e.g., Royal College of Psychiatrist Report, 2011; Storrie, Ahern, & Tuckett, 2010). A longitudinal study at one UK HEI found evidence that the psychological distress of students rose on entering university and did not return to pre-university registration levels for the duration of their course (Bewick, Koutsopoulou, Miles, Slaa, & Barkham, 2010). Similarly, a web-based survey across four UK HEIs found approximately one-third of students reported clinical levels of psychological distress (Bewick, Gill, Mulhern, Barkham, & Hill, 2008).

However, this concern has also extended to Further Education Institutions and Sixth Form Colleges (Warwick, Maxwell, Statham, Aggleton, & Simon, 2008). In addition, the concern about student mental health has been made at a global level (Rückert, 2015). In response to this increasing need, counselling services in the UK have been challenged to respond to and demonstrate the effectiveness of the therapeutic support offered (e.g., Randall & Bewick, 2016). Uniquely, support services within such establishments are required to work within a cycle of semesters and vacations that do not apply to the general population. However, the latest Higher Education Policy Institute (HEPI) report recommends that students have access to these services even when away from campus (Brown, 2016).

Related, and contributing to this challenge, is the fact that there is a great deal of variation in the information collected across services, which hampers benchmarking and the identification of areas of development across different sectors. In terms of services offered, in FE and SFCs the types of support may include individual or group counselling and may extend to classroom interventions involving teachers or parents. In HE services, in addition to one-to-one support, students may also be encouraged to use guided self-help, peer-to-peer support, or online counselling (Mair, 2016). The use of eTherapies (i.e. therapeutic advice provided via the internet or telephone) have become popular in recent years, but it is unclear which types of eTherapy have been adopted by

services, nor is it clear which types of eTherapy students may benefit from (Sucala et al., 2012). Offering different modes of support is necessary to suit the diverse needs of students. However, it also creates difficulties in comparing outcomes in different service sizes and educational settings.

Making comparisons across services is advantageous because it can inform service development, demonstrate effectiveness, and build evidence to support bids for institutional funding (Murray, McKenzie, Murray, & Richelieu, 2015). The latter is particularly important in the current economic climate since the reduction of government funding has led to closures of student counselling services in FE (Caleb, 2014). In HE, new policies to widen participation and raise tuition fees have created new challenges for students and counselling services. For example, student debt has been linked to poorer psychological functioning as well as considerations for dropping out of education (Cooke, Barkham, Audin, Bradley, & Davy, 2004; Walesmann, Gee, & Gentile, 2015). Early reports from the widening participation scheme anticipated increased reports of student mental ill-health as a consequence of more students from disadvantaged backgrounds entering HE (See Department for Business Innovation & Skills report, 2012). The challenges of student counselling services have been documented widely and continue to be a concern (Kreβ, Sperth, Hofmann, & Holm-Hadulla, 2015; Prince, 2015).

In fact, concerns for meeting higher demands in student counselling services were reported as early as 1969 and yet demand continues to be a prominent issue (Goldberg, 1980; Holm-Hadulla & Koutsoukou-Argyraki, 2015). This ongoing growth of students entering FE and HE has shaped embedded counselling services to offer innovative ways of providing support. One response to managing demand has been limiting counselling to 6 sessions. However, the introduction of very short-term support has raised concerns as to whether effective support can be delivered within these time constraints (Mair, 2016). Despite these concerns, client feedback suggests that counselling services contribute to students' ability to cope academically (McKenzie, Murray, Murray, & Richelieu, 2015).

As the severity and complexity of student mental health increase, there are growing numbers of students approaching embedded counselling services that would otherwise seek help from the National Health Service (NHS; Stallman, 2010). Furthermore, despite limiting the number of counselling sessions, the growth of student referrals has lengthened waiting times (Mowbray et al., 2006). In the student

counselling context, the length of the waiting list is further challenged by students having limited access to support outside of academic term times or during course placements. In response to the unique challenges of FE and HE, student counselling services have introduced alternative support in addition to traditional face-to-face counselling and the HEPI further recommends that services sign-post alternative support resources, including self-help and mobile apps such as the Expert Self-Care Student mobile app (Brown, 2016).

The use of alternative support has coincided with the availability of therapeutic technology that has the potential to reach more individuals in a shorter period and without the need to regularly attend the counselling service. These attributes are particularly relevant in FE and HE as students have been known to seek help outside of traditional office hours, particularly during evenings, nights and weekends (Gatti, Brivio, & Calciano, 2016). Offering alternative support that can be maintained at a distance also shows potential to support students on course placements who would otherwise not have access. One of the most recent advancements has been from mobile phone apps supporting mental well-being. However, there are concerns about quality and risk assessment (Grundy, Wang, & Bero, 2016).

In light of the increasing pressure on embedded counselling services, the current study aimed to compare service data across service size (e.g., small, medium, and large) and sector (i.e. Further Education, Sixth Form Colleges, and Higher Education) to establish the following: 1) service similarities (e.g., use of staff), 2) factors which impact on counselling services (e.g., attended counselling sessions), 3) factors which characterise students/service users (e.g., uptake of different types of support), and 4) identify the use and interest in offering therapeutic technology as a means to address service and client factors (e.g., online self-help).

3.3 Methods

3.3.1 Design

An online survey was devised based on questions reported in annual service reports made publicly available by university and college counselling services[2], as well as input from an executive committee representing Heads of University and College Counselling Services (HUCS) from FE and HE. The final scope of questions covered the following areas: 1) service characteristics (e.g. size of client pool, years of service, Full Time

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[2]see http://www.counselling.cam.ac.uk/general/reports for example reports

Equivalent of paid and volunteer therapeutic staff), 2) factors affecting services (e.g. attended counselling sessions, waiting times, and use of clinical outcome measures and associated problems), 3) characterising service users (e.g. referrals for different types of support, and 3-year demand), and 4) types of alternative support available through the service and the head of services' interest in offering therapeutic technology (e.g. self-help, online communities, and mobile phone apps). To ensure clarity and consistency across survey answers, definitions were provided within the survey and are presented in Appendix C1. Unless stated otherwise, questions referred to the previous academic year (2013/14) and reminders were stated within each question. A complete list of survey questions has been provided in Appendix C1.

3.3.2 Survey functionality and distribution

The survey questions were displayed electronically on a powerful online platform (https://qualtrics.com/) that enabled participants to complete the survey across multiple sittings. This functionality required participants' email addresses and, although answers were confidential, they were not anonymous. To allow services to contribute anonymously, a second web link to the survey was created. However, this version could only be completed in one sitting. Heads of student counselling services were contacted through a professional mailing list by the chair of the HE counselling sector. The aim of the initial contact was to collect online consent to be contacted with a unique link to the survey, and to provide the link to the anonymous survey for services willing to complete the survey in one sitting.

During the initial contact, the following information was provided: 1) electronic copies of survey questions, 2) a web link to an online consent form to receive a unique web link, and 3) a web link to the anonymous survey version. To promote data integrity and to enable clearer comparisons of service data, question responses were multiple choice with options to provide additional comments on each page. The only exception was one question capturing therapists' difficulties experienced when using clinical outcome measures, which was an open comment box with unlimited text entry.

3.3.3 Participants

A total of 113 heads of service completed the survey comprising 72 who provided emails through the online consent form shared on a professional mailing list (see above) and a further 41 who completed the survey anonymously. Whilst the total number of heads of services who accessed the professional mailing list is unknown, there are approximately 160 universities in the UK. Moreover, a previous annual survey distributed through the same professional mailing list captured data from 63 services in 2011/12 (see Dailey & Abbott, 2013), highlighting a stronger response rate for the current study. The 113 counselling services were drawn from the following sectors: SFCs (n = 11, 9.7%), FE (n = 37, 32.7%), and HE (n = 65, 55.6%). The study received ethical approval from the University of Sheffield Research Ethics Committee before expressions of interest were sought from heads of service (Ref:1078, see Appendix C3).

3.3.4 Analytic overview

As service facilities are determined by the level of support they have, both financially and in terms of staffing, service characteristics are anticipated to vary according to service size. Therefore, survey data have been grouped into small, medium, and large based on tercile cut-points, within each sector, from the total number of students registered at each institution[3]. Moreover, grouping services according to the number of student registrations is hoped to be informative by enabling heads of service to make comparisons and reflect on their own service. The sizes of the groups were operationalised as follows: 1) small (~12,000 students; n = 22, 33.8%), 2) medium (12,001-18,673 students; n = 22, 33.8%), and 3) large (18,674+ students; n = 21, 32.4%). FE institutions were grouped into: 1) small (~8,000 students; n = 14, 37.8%), 2) medium (8,001-15,000 students; n = 13, 35.1 %), and 3) large (15,001+ students; n = 10, 27%). SFCs were grouped into: 1) small (~1,927 students; n = 4, 36.4%), 2) medium (1,928-2,400 students; n = 4, 36.4%), and 3) large (2,401+ students; n = 3, 27.3%).

Analysis of survey data is predominantly descriptive with the goal of providing an initial descriptive account of UK student counselling services given the limited research on UK services. As data were normally distributed, the mean, standard deviation and range have been provided to characterise services. Service structure was characterised as the number of years the service had been available and the full-time

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[3] The decision to split services for analysis was supported by the HUCS professional group as it was considered more informative than analysing the sample as a whole, as presented in a previous report (see Daley & Abbott, 2013).

equivalent (FTE) of paid/volunteer therapeutic staff across low and high-intensity support (e.g. Counselling, Cognitive Behavioural Therapy (CBT), psychotherapy). Factors affecting services were identified by the typical and maximum number of attended and unattended counselling sessions; average, minimum and maximum waiting period for initial and ongoing counselling sessions; the administration of routine outcome measures (ROMs); and difficulties experienced while using ROMs and other assessments. Given the qualitative nature of data capturing difficulties experienced using ROMs, thematic analysis (Braun & Clarke, 2006) was performed by researcher EB to provide prominent themes across all services.

Themes were determined by grouping comments that were similar in nature (e.g. describing inconsistent use of ROM's across staff). Themes were corroborated by supervisor MB before weighted percentages were calculated to establish overlapping experiences across heads of service. Pearson correlations were calculated to establish the relationships between the waiting periods and the number of attended and unattended counselling sessions (defined as: "sessions in which the student did not attend (DNA) or cancelled after referral"). Service users were characterised by the percentage of student referrals out of the total number of students registered at the institution that year, the percentage of referrals for low and high-intensity support, and overall referrals over a 3-year period to identify changes in demand. The final analysis presents the percentage of services that previously, currently, or would like to use a range of alternative support resources including different therapeutic technologies.

3.4 Results

3.4.1 Service years

Table 3.1 presents the number of years counselling services had been available across size and sector. Large HE counselling services had been available the longest, followed by medium services, and small services. This pattern is reflected in FE whereas in SFC, large services had been available the longest followed by small and medium services.

Table 3.1 Duration of existence of embedded counselling services (in years) in UK institutions of Higher Education (HE), Further Education (FE), and Sixth Form Colleges (SFC) in 2015

Sector & size	Duration of existence of embedded counselling services (years)			
	N	Mean	SD	Min-Max
HE	65			
Small	22	20.23	11.25	2-50
Medium	22	27.29	9.42	14-48
Large	21	28.43	9.23	8-46
FE	37			
Small	14	14.32	6.90	2-25
Medium	13	16.20	3.99	9-23
Large	10	17.44	5.15	12-26
SFC	11			
Small	4	13.50	6.02	7-20
Medium	4	11.50	6.58	3-18
Large	3	18.67	7.09	11-25

3.4.2 FTE of therapeutic staff

Irrespective of sector or size, all counselling services had more high-intensity therapeutic staff than any other available role (see Table 3.2). This difference was less pronounced in the FE sector, while in SFC the only role other than high-intensity was unpaid. Across service size, large services had the most high-intensity counsellors, whereas medium services had the most Mental Health Advisors (MHAs; defined as "someone whose specific role is to assess the impact of mental health needs on academic ability and provide information about mental health issues and the services/support available"), and small services had the most unpaid/trainee counsellors.

3.4.3 Referrals

In HE most students were referred to high-intensity support and this was consistent across service size (see Table 3.3). A small percentage of students attended for only the first appointment (and did not go on to receive counselling), and this was highest in medium services, which was more than twice as many than small HE services. Medium HE services also reported the most students being referred for low-intensity support (e.g. one off therapeutic workshops, short group work, or psychoeducation).

Table 3.2. FTE of therapeutic staff offering high-intensity interventions, low-intensity interventions, groupwork, mental health advice, and unpaid support across UK HE, FE and SFC counselling services in 2015

Full Time Equivalent (FTE) of therapeutic staff in embedded counseling services							
Service size	N	High-intensity	Low-intensity	Groupwork	MHA	Unpaid	Total
Higher Education							
Small	18	1.86	0.09	0.08	0.95	1.37	4.35
Medium	19	3.71	0.43	0.01	1.92	0.62	6.69
Large	18	4.38	0.32	0.00	1.86	1.35	7.91
Total	55	*9.95*	*0.84*	*0.09*	*4.73*	*3.34*	*18.95*
Further Education							
Small	11	1.11	0.09	0.12	1.00	0.13	2.45
Medium	10	0.93	0.44	1.11	0.76	0.63	3.87
Large	9	1.08	0.00	0.00	-	0.37	1.45
Total	*30*	*3.12*	*0.53*	*1.23*	*1.76*	*1.13*	*7.77*
Sixth Form Colleges							
Small	3	0.75	0.00	0.00	-	0.20	0.95
Medium	4	0.37	0.00	0.00	-	0.69	1.06
Large	3	1.00	0.00	0.00	-	0.22	1.22
Total	*10*	*2.12*	*0.00*	*0.00*	-	*1.11*	*3.23*

MHA = Mental Health Advisor defined as "someone whose specific role is to assess the impact of mental health needs on academic ability and provide information about mental health issues and the services/support available". Missing data (HE: small = 4; medium = 3; large = 3; FE: small = 3; medium = 3; large = 1; SFC: small = 1; medium = 0; large = 0).

This pattern of referrals was matched in FE and SFC, and overall SFC reported the highest percentage of referrals for high-intensity support, but this was also the only form of support reported. Irrespective of the intensity of support, both FE and HE services experienced increased demand across the 3-years (2011-2014). Inspection of Figure 1 indicates that the rise in demand is most noticeable in FE and HE, particularly in 2012, whereas referrals in SFCs remain stable. Importantly, the number of referrals for counselling in 2011-2014 has increased beyond the anticipated rise in students entering further and higher education. This remains true even when the maximum number of registered students in 2013/14 is used to calculate the percentage of referrals across sectors. In FE for instance, referrals for counselling account for approximately 2% of students registered in 2011/12, which rises to 6% in 2012/13. Equally in HE, referrals for counselling account for approximately 6% of students registered in 2011/12, which rises

to 18% in 2012/13. By contrast the percentage of counselling referrals in SFC remains at approximately 5% between 2011-2014.

3.4.4 Attended counselling sessions

Students in HE typically attended 3-4 counselling sessions, but there was large variation in small services compared to medium and large services (see Table 3.4). Students in medium HE services also attended the most counselling sessions in 2013/14, which was 10 sessions more than small and large HE services. Students in FE typically attended 3-4 counselling sessions. Students in large FE institutions attended the most counselling sessions. Students in small and medium SFCs attended 3-5 counselling sessions and there was minor variation in the maximum attendance across SFC size.

3.4.5 Unattended counselling sessions

In HE, the annual number of unattended counselling sessions increased with service size (small: mean = 275.14, SD = 209.71, min = 23, max = 857; medium: mean = 487.01, SD = 239.39, min = 191, max = 868; and large: mean = 682.88, SD = 437.57, min = 151, max = 1368). In FE, medium counselling services reported the highest number of unattended counselling sessions (mean = 265.25, SD = 241.22, min = 108, max = 622), followed by large (mean = 194.67, SD = 61.28, min = 124, max = 233) and small with the fewest (mean = 154.40, SD = 65.01, min = 74, max = 213). In SFC, small services reported the fewest unattended counselling sessions compared to FE and HE (mean = 115.09, SD = 106.13, min = 9, max = 362.14). However, medium and large services did not report on unattended sessions.

3.4.6 Average waiting periods

Inspection of Table 3.5 demonstrates that the average waiting period for the initial face-to-face appointment was 6 working days in large HE services, and 7 working days for small and medium services. After the initial face-to-face appointment, students waited approximately 17-18 working days between ongoing counselling sessions across service size and sector. There was a large variation in the potential waiting period across service sizes, which was the longest in small services for the initial appointment and in large services for ongoing sessions.

Table 3.3. Percentage of student referrals for assessment only, high-intensity support, and low-intensity support across counselling services embedded in Higher Education (HE), Further Education (FE), and Sixth Form Colleges (SCF), split by service size

		Percentage of student referrals		
	N	Assessment only*	High-intensity	Low-intensity
HE	52			
Small	16	6.5	81.7	11.8
Medium	18	15.5	69.6	14.9
Large	18	8.7	82.3	9.0
FE	20			
Small	7	10.7	85.9	3.4
Medium	7	13.4	86.6	0.0
Large	6	7.0	93.0	0.0
SFC	7			
Small	2	3.7	96.3	0.0
Medium	2	7.3	91.0	1.7
Large	3	0.0	100.0	0.0

*The 'assessment only' category does not include students who scored below the cut-off to receive counselling (i.e. high-intensity) as those students have been included in the low-intensity group. For services that included the assessment in the first counselling session, respondents were instructed to only include students that did not go on to receive counselling. Missing data (HE: small = 6; medium = 4; large = 3; FE: small = 7; medium = 7; large = 6; SFC: small = 2; medium = 2; large = 0).

There were no significant associations between the waiting periods and the number of unattended sessions (Initial: $r = .28$, p = .16; ongoing: $r = .28$, p = .20), suggesting that factors aside from the waiting list affect students' ability to attend counselling sessions. There were also no significant associations between the waiting periods and the number of counselling sessions students attended (Initial: $r = .06$, p = .74; ongoing $r = .03$, p = .88). This was also true for the maximum waiting periods and the number of counselling sessions attended (Initial: $r = .06$, p = .74; ongoing: $r = .09$, p = .88). However, there was a significant negative association between the number of counselling sessions attended and the number of unattended sessions (r = .48, p = .01), suggesting that students were less likely to cancel sessions the further into counselling they were.

Figure 3.1. Three-year trend of student referrals for 92 embedded counselling services in Higher Education (HE), Further Education (FE) and Sixth Form Colleges (SFCs) during 2011-2014
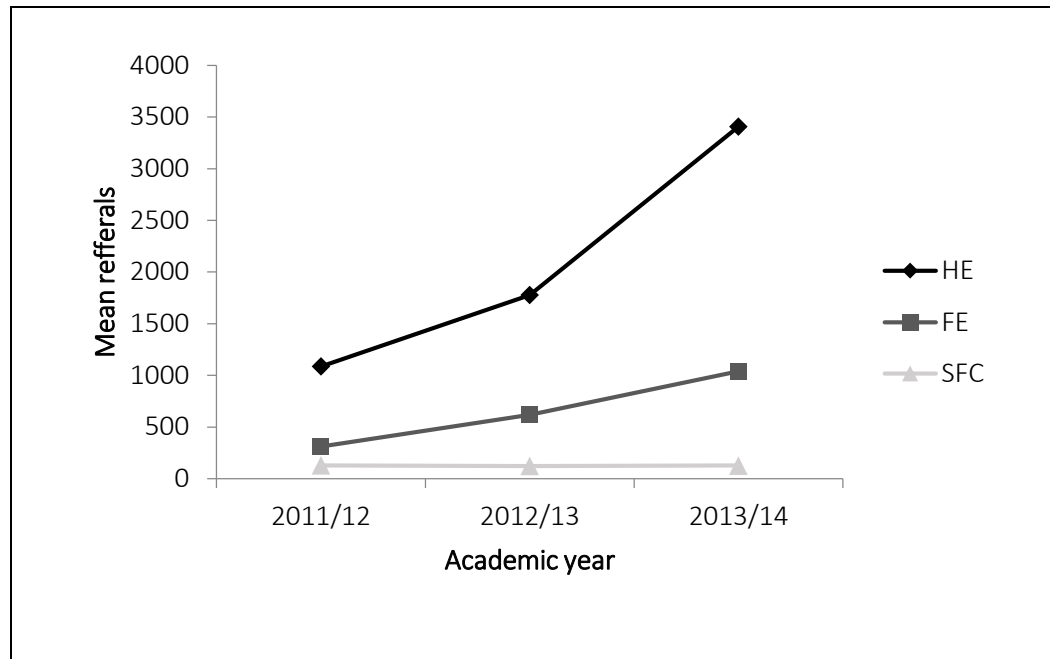
The SDs associated with the mean referrals provided in Figure 3.1 have been noted here. During 2011/12 to 2013/14, the mean referrals in HE (black line) had the following SDs: 2011/12 = 258, 2012/13 = 291, and 2013/14 = 613. During this time, the mean referrals in FE (dark grey) had the following SDs: 2011/12 = 54, 2012/13 = 72, and 2013/14 = 98. The mean referrals for SFCs (light grey) during this time were: 2011/12 = 33, 2012/13 = 38, and 2013/14 = 42.

Compared to HE, FE services reported longer waiting periods for both the initial appointment and ongoing counselling sessions, with the longest initial wait found in medium sized services. For ongoing counselling sessions, students waited the least in small services, which was also less than the waiting period for ongoing sessions in all HE services. This was also true for the maximum waiting period for ongoing sessions in FE, which was typically 10 days fewer than HE. However, few FE services provided data on the waiting period as follows: 4 small services (40%), 3 medium services (30%), and 4 large services (40%). SFCs also had missing data, with only 5 services (36%) contributing data on the waiting periods. Of the data provided, SFCs showed a similar waiting period to FE services for the initial assessment with students waiting approximately 8 working days to be seen. The longest waiting period in SFCs, for both the initial and ongoing counselling sessions, was found in small services, whereas medium services reported the shortest waiting period overall.

Table 3.4 The typical and maximum number of attended counselling sessions recorded in 2013/14 in institutions of Higher Education (HE), Further Education (FE) and Sixth Form Colleges (SFCs), split by service size

| | | Number of attended counselling sessions | | | | | |
| | | Typical attended sessions | | | Maximum attended sessions | | |
Service	N	Mean	SD	Min-Max	Mean	SD	Min-Max
HE	60						
Small	20	4.40	3.17	1-12	24.50	7.50	12-34
Medium	19	3.15	1.64	1-6	22.92	10.76	6-46
Large	21	3.29	1.64	1-6	23.20	6.74	11-36
FE	31						
Small	12	3.62	2.04	1-7	20.29	5.90	16-32
Medium	10	3.40	2.30	1-6	17.21	9.33	8-32
Large	9	4.20	2.17	1-6	28.25	11.50	14-39
SFC	6						
Small	3	5.50	6.36	1-12	25.50	7.78	20-31
Medium	2	4.75	2.36	1-7	25.00	10.23	10-32
Large	1	3.00	na	1-6	na	na	na

Missing data (Higher Education: small = 2; medium = 3; large = 0; Further Education: small = 2; medium = 3; large = 1; Sixth Form College: small = 1; medium = 2; large = 2).

3.4.7 Measuring outcomes

Embedded counselling services reported using three clinical outcome measures including: the Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM; see Barkham et al., 2010); the Patient Health Questionnaire (PHQ-9; Spitzer, Kroenke, & Williams, 1999); and the Counseling Center Assessment of Psychological Symptoms (CCAPS; Locke et al., 2011). In HE services, 39% (total n = 61) of services used the CORE-OM, 5% used the PHQ-9, and 3% used the CCAPS. A further 47% did not use a validated clinical measure although 15% used their own assessment or feedback form. The final 6% did not report on their use of clinical outcome measures. A total of 20% of services used more than one clinical measure. In FE services, only 6 services (42%) used a validated clinical measure, which was predominantly the CORE-OM, and the remaining 48% used their own service evaluation form or questions concerning the impact of counselling services on students' ability to cope academically. In SFCs, only one service (9%) used a validated clinical measure (PHQ-9) but also reported that 2013/14 was the first year of administration.

Table 3.5. Wait period, in working days, for the initial assessment and between ongoing counselling sessions in small, medium, and large student counselling services embedded in Higher Education (HE), Further Education (FE) and Sixth Form Colleges (SCFs), split by sector and service size

| | | Wait period for the initial and ongoing counselling sessions | | | | | | | |
| | | Initial waiting period | | | | Ongoing waiting period | | | |
Service Size	N	Mean	SD	Min	Max	Mean	SD	Min	Max
HE	57								
Small	19	6.83	4.56	2.00	18.00	17.64	10.48	18.00	33.00
Medium	18	6.74	2.78	3.00	12.40	16.57	8.51	12.40	34.00
Large	20	6.14	3.59	0.00	12.50	16.97	13.90	12.50	43.59
FE	29								
Small	13	8.05	3.83	4.00	13.20	8.58	3.53	13.20	15.00
Medium	9	9.12	4.80	4.00	13.50	17.50	6.61	13.50	25.00
Large	7	6.36	1.67	4.80	8.00	10.98	9.46	8.00	27.50
SFC	5								
Small	3	7.50	3.54	5.00	10.00	20.00	14.14	10.00	30.00
Medium	2	7.63	4.39	3.00	12.50	8.00	2.65	12.50	10.00
Large	0	-	-	-	-	-	-	-	-

Missing data (HE: small = 3; medium = 4; large = 1; FE: small = 1; medium = 4; large = 3; SFC: small = 1; medium = 2; large = 3).

In HE, 92% of medium and large services and 79% of small services administered measures at initial screening (i.e., pre-treatment). Only 25% of medium and 62% of large services administered measures at the end of therapy (post-treatment). However, 82% of small services collected post-data. Few HE services administered measures every session representing only 8% of small, 23% of medium and 11% of large HE services. Services in FE and SFCs were less likely to use clinical outcome measures compared to HE with only 36-50% collecting pre-data and 43-50% collecting post-data. However, SFCs were most likely to collect data at every counselling session compared to FE and HE (75-100%).

Table 3.6. The percentage of services that used assessments before, during, and after counselling in Higher Education (HE), Further Education (FE) and Sixth Form College (SFC) counselling services in 2015, split by sector and service size

	Percentage of services using measures								
Service Size	Pre (%)			Post (%)			Every (%)		
	HE	FE	SFC	HE	FE	SFC	HE	FE	SFC
Small	79	36	50	82	43	75	8	21	75
Medium	92	38	50	25	38	75	25	23	100
Large	92	50	-	62	50	-	11	40	-

3.4.8 Problems experienced with clinical outcome measures

Of the 65 HE institutions, 37 (57%) reported problems experienced when using (or deciding not to use) a ROM. Ten key issues were raised: 1) low return rate for follow-up data (n = 30, 81%), 2) missing data from students with unplanned endings (n = 28, 76%), 3) inconsistency across staff using/not using measures (n = 25, 68%), 4) time consuming to use measures or to interpret/discuss/input (n = 24, 65%), 5) difficulties analysing or reporting data/not having a dedicated member of staff (n = 23, 62%), 6) inconsistency in data across services and unable to benchmark (n = 15, 41%), 7) concerns over differences between different clinical measures (n = 13, 35%), 8) concerns over students not wanting to complete forms (n = 4, 11%), 9) no UK normative sample for students (n = 2, 5%), and 10) concerns over students exaggerating distress to be seen quicker (n = 1, 3%).

3.4.9 Links to external services

Within HE, 13 small services (59%), 7 medium services (33%), and 9 large services (43%) reported on links they had with external services (Table 3.7). There were 10 areas of external services that were mentioned including links to: 1) Primary care/local GP, 2) secondary care, 3) community mental health, 4) Improving Access to Psychological Therapies (IAPT in NHS), 5) substance misuse, 6) early intervention (including psychosis), 7) high intensity CBT, 8) psychiatrist, 9) disordered eating, and 10) self-harm. Of these external services, all HE counselling services reported having the most links with the local GP and this was the most in small counselling services. Next to links to the local GP, small counselling services were most likely to link to IAPT closely followed by secondary care and high intensity CBT.

Approximately 15% of small services reported on links to a community mental health team, early intervention or a specialist service for disordered eating. Medium counselling services, demonstrated broad links to external services with 14% of services showing connections with secondary care, IAPT, early intervention, psychiatrists, and services for self-harm. Large counselling services, were the most targeted with a larger percentage of services with links to IAPT, self-harm, and disordered eating services, and a smaller percentage of large services with links to high intensity CBT, early intervention and secondary care.

3.4.10 Offering alternative support

To explore the types of alternative available from student counselling services and how the types of support vary according to time and interest, services were asked to report on whether they offered a range of alternative support options in 2013, 2014, and whether they would like to offer any of the types of support listed including: email counselling, phone counselling, self-help books, online self-help, peer-to-peer, eTherapy, online communities, and mobile phone apps. Responses were provided by HE services only, and of the 65 HE services in the survey, 46 services (71%) reported on the use and interest in offering alternative support.

HE services differed greatly according the types of alternative support they offered and the types of alternative support they would like to offer (Table 3.2). In small services, the use of email counselling, online communities and eTherapy reduced over time with little interest in keeping these services. By contrast, medium services showed increased popularity for email counselling and eTherapy, with declining interest in online communities. Large services also showed reduced interest in eTherapy, email counselling, but unlike small and medium services, large services showed slightly more interest in offering online communities in the future. The only form of alternative support that increased in popularity across all services was mobile phone apps to support mental health and wellbeing. FE and SFCs did not report on their use or interest in alternative therapeutic support.

Table 3.7. Percentage of embedded student counselling services that have links to external mental health services in 2015

	CBT	Community mental health	Disordered eating	Early intervention	IAPT	Local GP	Psychiatrist	Secondary care	Self-harm	Substance misuse
Small (n = 13)	23.1	15.4	15.4	15.4	30.8	84.6	7.7	23.1	0.0	7.7
Medium (n = 7)	0.0	28.6	0.0	14.3	14.3	71.4	14.3	14.3	14.3	0.0
Large (n = 9)	33.3	0.0	44.4	22.2	44.4	55.6	0.0	22.2	44.4	11.1

3.4.11 Views on eTherapy

HE counselling services were asked to state their experiences of using eTherapy with students and to raise any concerns they had with its potential application. Irrespective of size, all services reported that students prefer face-to-face counselling compared with being offered eTherapy or online support (Figure 3.3). The other dominant areas of agreement were: observing the large variation in eTherapy quality, that services were limited by their budget, and that they are unable to track students' progress or use of eTherapy. Within service size, small counselling services were the least happy with the online resources they offered, were unsure on how to implement eTherapy in their service, and would like support to do so. Medium services would also like support in implementing eTherapy, but they reported not needing help to implement such resources suggesting that their difficulties were down to budget and staffing. By contrast, large counselling services reported difficulties knowing how to implement eTherapy and would like support to do so, suggesting that there are implementation issues across HE counselling services. Unlike small and medium services, large services raised concerns over the unknown effectiveness of eTherapies and the impression that students do not view eTherapy as 'real' therapy.

Figure 3.2. Use of and interest in offering support via email, eTherapy, online communities and mobile phone apps in embedded student counselling services in Higher Education between 2013-2014
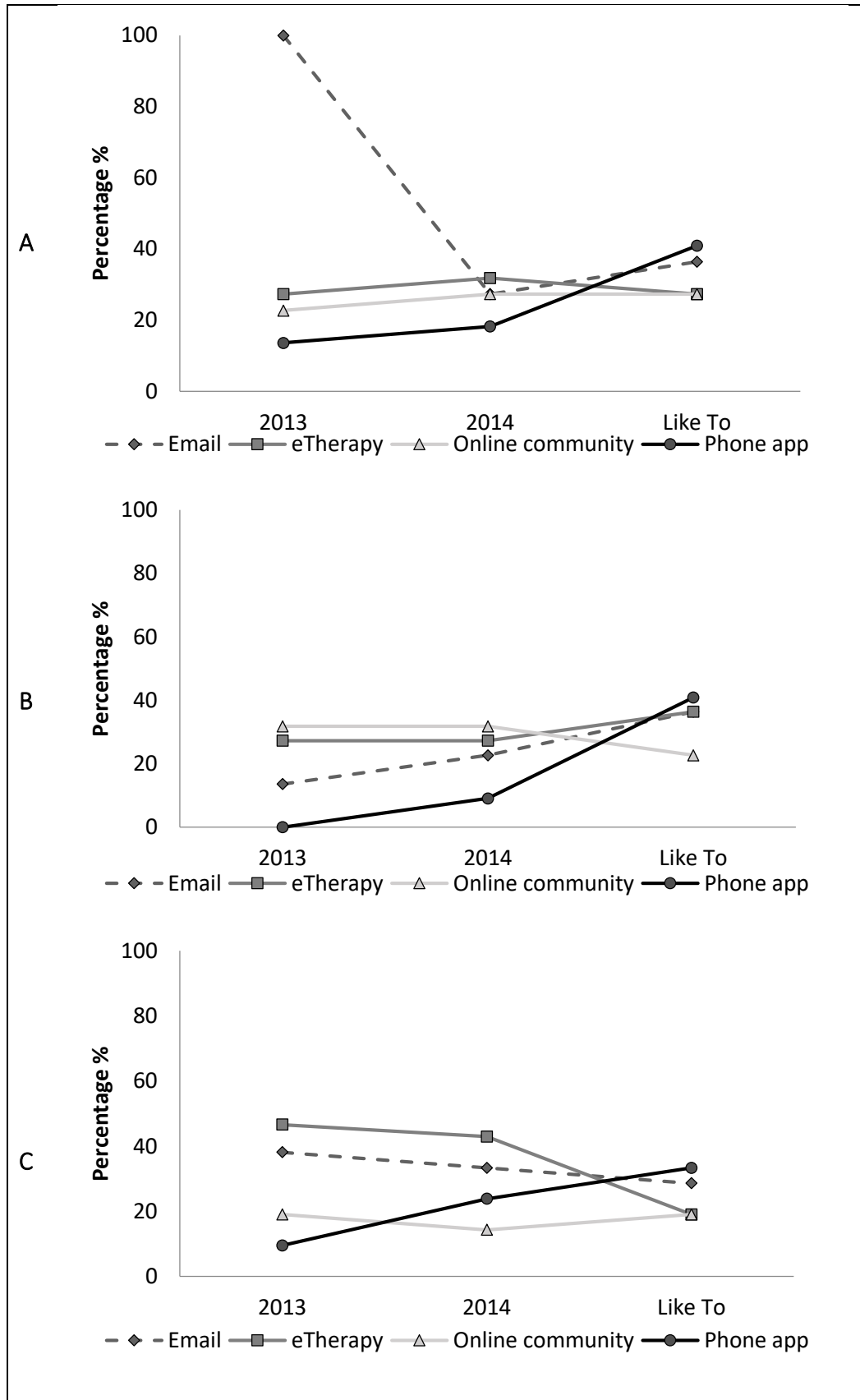
A = Small services (n = 18); B = Medium services (n = 20); C = Large services (n = 20)

Figure 3.3. The percentage of therapists' views on using eTherapy in small, medium and large counselling services in Higher Education (HE) in 2015
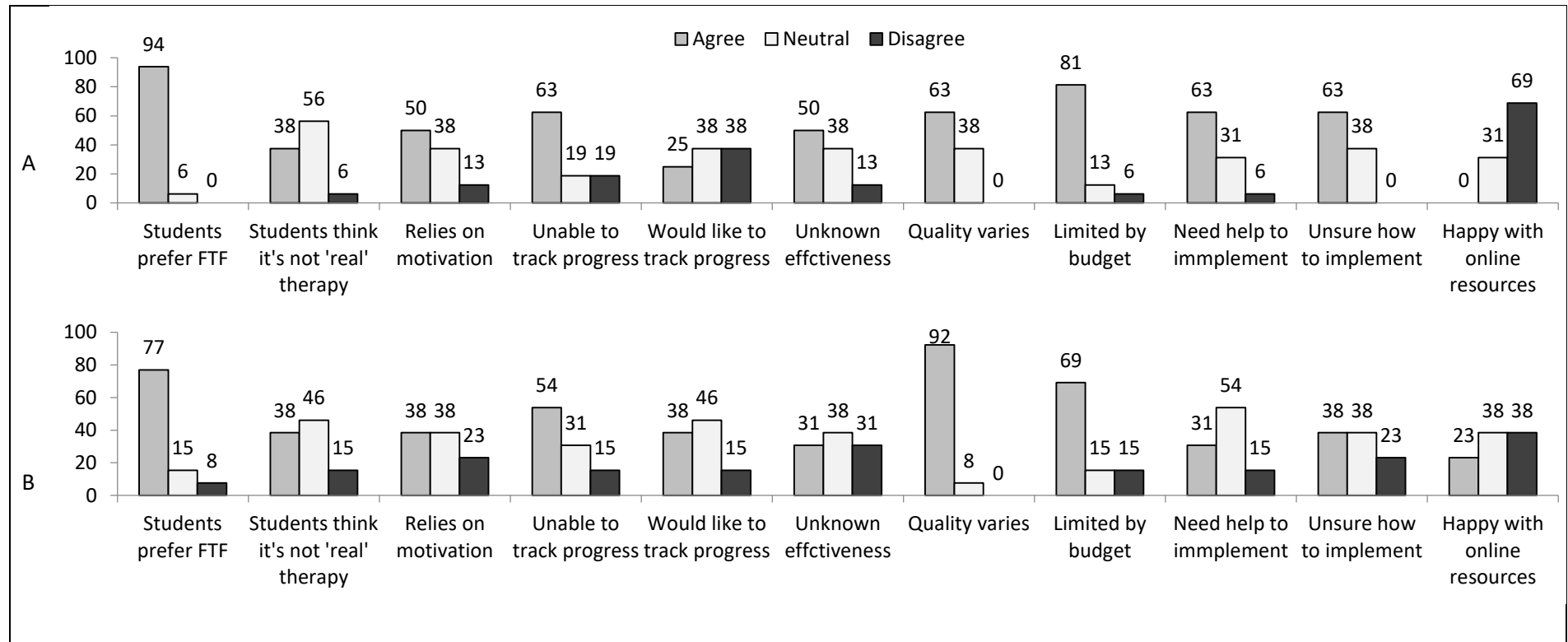
Figure 3.3. (cont'd) The percentage of therapists' views on using eTherapy in small, medium and large counselling services in Higher Education (HE) in 2015
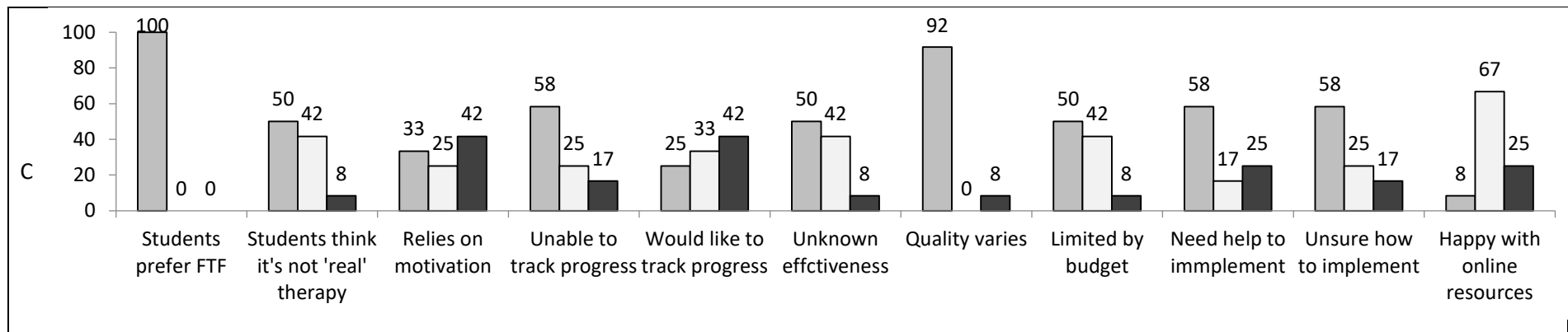
A = Small HE services; B = Medium HE services; C = Large HE services

3.5 Discussion

The aim of this study was to characterise UK embedded counselling services in HE, FE, and SFCs to determine their capacity to address the increasing number and severity of student referrals. As expected, the overall level of demand on services increased over a 3-year period and this trend was reflected in referrals predominantly for high-intensity support. However, this only applied to HE and FE sectors and was particularly acute for HE in 2013. This is noteworthy because it coincides with the first student cohort affected by the rise in tuition fees, introduced in September 2012 (Bolton, 2014). Research has linked student debt with poorer psychological functioning and this relationship has been corroborated by literature even before the fee rise (Cooke, Barkham, Audin, Bradley, & Davy, 2004). The increased demands for student counselling services may also be attributed to widening participation schemes as more students from more disadvantaged backgrounds are able to access HE and early reports anticipated an increase in the reporting of student mental ill-health (Kemp, 2002).

Despite subtle differences across the sectors, there was an overwhelming trend to utilise high-intensity therapeutic staff. The finding that services predominantly refer high-intensity support suggests that students approach services when their mental well-being is already affecting their ability to cope. This severity involves many problem areas including: 1) resistant help-seeking behaviour whereby students wait for their problem to worsen before seeking *professional* help, 2) unknown severity of students who do not seek help for their mental health, 3) undocumented impact of mental health issues on students' ability to fulfil their academic requirements and to stay in education, and 4) students are no longer a privileged group in society. The latter concern has been raised previously whereby students demonstrate a higher prevalence of mental ill-health compared to the general population (Stallman, 2010). Together these findings substantiate the need for preventative programmes across educational institutions to equip students with the skills (e.g., emotional resilience; see Brown, 2016) to manage their mental health. Such programmes would benefit from exploring and promoting student help-seeking behaviour to understand which sources students go to before seeking professional help (e.g., peers) and to encourage students to seek professional help before their mental health needs become severe.

While not surprising that that the largest therapeutic role was for high-intensity support, the finding that a second prominent role was for MHAs may not have been foreseen. The growth of MHAs in student counselling services has been reported in previous literature and demonstrates a promising response to recommendations from

the Royal College of Psychiatrists report (2011). The recent availability of MHAs also reflects changes in service structure as educational institutions introduce dedicated roles to assess the impact of mental health needs on academic ability (see Blakely & Bragg, 2010). For example, the MHA guidance document (Blakely & Bragg, 2010), describes several contextual duties such as: 1) discussing mental health difficulties that impact on academic progression, 2) considering the extent to which students' mental health needs affect their ability to cope with the demands of their course, 3) reducing barriers to learning, and 4) considering alternative course options for students with significant mental health concerns.

Beyond the direct benefit to students receiving guidance from contextually trained therapeutic staff, the documentation and data collection of such outcomes could demonstrate the impact counselling services have on the wider institution and on external mental health services. Nonetheless, by responding to recommendations and utilising MHAs, student counselling services highlight the importance of providing a therapeutic team that is trained and experienced in the student context. Whilst student counselling services have traditionally offered short-term support, the number of counselling sessions offered has typically varied. This variation has often changed in response to increasing demands by means of managing longer waiting lists (Mair, 2016). Findings from the work reported in the current thesis suggest that two groups of students are likely approaching services: those who are adjusting to a new experience, and those in need of on-going therapy. The latter group may give rise to the growing number of students entering HE through the widening participation scheme and resemble individuals that would otherwise require longer term support through external services from the NHS.

Although many students received short-term support, there have been concerns over the length of time students wait to be seen, particularly as higher demands have led to longer waiting lists (Mowbray et al., 2006). The waiting period has been a concern because there is mixed evidence to suggest that the mental health needs of individuals may worsen whilst waiting to be seen. However, they may also improve or show no change (Posternak & Miller, 2001). Despite prior concerns, findings reported in the current study suggest that being on a waiting list does not lead to students needing more counselling sessions and they are not necessarily at risk of disengaging from therapy. This finding is likely due to the reasonable length of the waiting lists in FE/HE compared to the lengthy waiting lists reported in external counselling services (Dendridge, 2015).

In line with previous literature, the current study found that the CORE-OM was the most commonly used instrument in HE and FE sectors, but almost half of services did not use a validated clinical measure and 15 per cent used their own feedback measures. Collecting client feedback is advantageous as it contributes to the service evidence reported to governing bodies and it is recommended to ensure that services are responsive to students' needs (Mental Wellbeing in Higher Education Working Group, 2015). Missing outcome data has likely contributed to the limited evidence on effectiveness and limited awareness of how embedded counselling services contribute to their wider institution. The restricted use of clinical outcome measures continues to be a concern for embedded counselling services and it is difficult to see how services will thrive in the absence of evidence-based outcomes that can be benchmarked against relevant population norms. Furthermore, aside from the service benefits of collecting outcome data, discussing outcomes with clients has been shown to help clients acknowledge their progression and improve outcomes.

For example, compared to clients who receive no feedback, clients who have feedback from clinical measures discussed in therapy have been shown to: 1) improve to a greater degree, 2) improve sooner, 3) have less likelihood of dropping out of therapy, 4) require fewer therapy sessions, and 5) maintain improvements at 12 months (Krägeloh, Czuba, Billington, Kersten, & Siegert, 2015). The current study aimed to distinguish problems experienced when using validated clinical measures to inform service development. The reported findings in the current thesis identified several issues that concerned either the students' use of clinical forms or their use across different therapists and services. The overarching themes centred on an absence of a culture of evaluation and a lack of strategic implementation that would enable collected data to be best used. The constant message of needing additional support to implement measures was evident.

However, there are now brief measures that are under Creative Commons License and can be mounted free into electronic management systems: for example, CORE-10 and GP-CORE (Barkham et al., 2010). It is to be hoped that services not using a bona fide outcome measure change their practice as soon as possible. There were also concerns about using clinical assessments that do not capture student distress (e.g. academic, family, social anxiety, or substance misuse) or the absence of UK norms for student counselling. Interestingly a small percentage of services used the CCAPS (Locke et al., 2011), which is a student specific clinical tool used widely in America and has been

validated recently for use in the UK (Broglia, Millings, & Barkham, 2017a; doi: 10.1002/cpp.2070; see also Chapter 4).

Amongst the services that did collect data there were further challenges and inconsistencies when forms were administered. Across the sectors, services typically administered forms when students first approached the service (pre) or when they finished using the service (post). However, using forms at pre *and* post were less likely and using forms at every visit was sparse. The use of clinical measures has been recommended in the competency framework for delivering effective counselling in FE and HE, provided by the British Association for Counselling and Psychotherapy (BACP). According to this framework, using clinical assessments can provide the following benefits: 1) monitor the initial and ongoing levels of student distress, 2) provide a prompt to explore important areas of student lifestyle that have improved or worsened over time, 3) highlight areas of concern that students may have chosen not to raise with their therapist, 4) promote discussion between students and therapists, and 5) indicate whether students are not benefitting from counselling or would be better suited to alternative support (Hill & Roth, 2016).

In terms of offering alternative support, this appears particularly important in student counselling services because students often seek help during evenings and at weekends or in more accessible formats such as online or self-help support (Mair, 2016). The current study found interest in email counselling, online communities, and mobile phone apps. The finding that small and large services have reduced interest in email counselling and eTherapy, having used them previously, reflects a shift in interest as newer forms of technology become available. The cost of new therapeutic technologies and devices are also important considerations for offering alternative support. For instance, it is not surprising that email counselling and video conferencing were used heavily in 2012/13 as they create little expense on a service budget that is already stretched.

Relatedly, the introduction of well-being apps offers alternative support that is substantially cheaper than the online self-help platforms currently available. Moving forward, student counselling services would benefit from providing staff with training and knowledge of quality assessed well-being apps to encourage sign-posting to students and to respond to HEPI recommendations (Brown, 2016). The recent surge of apps for mental well-being has sparked new research exploring the efficacy, effectiveness, and potential implications of using apps to support mental health (Powell, Chen, & Thammachart, 2017). One growing concern is the abundance of apps that are

readily accessible by the public without the means to quality assess or determine the appropriateness for individuals to use apps.

A recent review of mental and physical health apps found that only 14 per cent had been designed with input from a healthcare professional (Sedrati et al., 2016). The review also found that although most apps for physical health had been designed for medical professionals (i.e. rather than patients), the majority of apps for mental health had been designed for patients. Together these results highlight that mental health apps should be used with caution and that users could benefit from having professional guidance on the appropriate use of apps. Receiving guided support on apps has already been demonstrated in an evidence-based stress management program and shows promise for the development of guidelines, regulations and quality assessment (Sandra et al., 2016). With such developments come new opportunities for using mental health apps in the student counselling context, which have the potential to address challenges from increased demands, growing waiting lists and therapy disengagement.

3.6 Conclusion

The current study identified many overlapping features in student counselling services in SFCs, FE and HE. These findings highlight the marked severity of student mental health needs and the growing demand that is accelerating in HE. Despite growing demands and concerns for increased waiting lists, this study found no relationships between the duration of the waiting list and either the DNA rate or the total number of counselling sessions. Therefore, it is likely that external factors (e.g., academic timetable/commitments) affect students' ability to attend counselling and that collecting outcomes every session will reduce data loss from unplanned endings. Collectively, these changes will inform further development and will enable services to demonstrate effectiveness. Of the areas of planned service development raised in the current study, there was an overlapping interest in offering mobile apps to support student mental health, which show potential to address the challenges outlined in the current study.

Chapter 3B: Using technology in student counselling: telephone interviews with heads of service from Higher and Further Education (HE/FE)

3.7 Introduction

Educational institutions embrace technology to enhance learning and provide information in a rapid and convenient manner. By contrast, student counselling services have adopted technology less willingly and with uncertainties on the role of technology in the therapeutic context (Kirkwood, Adrian, Price, & Linda, 2014; Waller & Gillbody, 2009). Using technology in student counselling has potential to extend the service and access individuals that are hard to reach or would otherwise not have support (Balestra, 2012). Furthermore, as newer therapeutic technologies emerge services are encouraged to broaden the types of support available and to be more inclusive of individuals who may not want to engage with traditional face-to-face counselling (Brown, 2016). For example, counselling may be offered via telephone or email and content from self-help is now available online (Schueller & Parks, 2012; Stead, Perera, & Lancaster, 2006; Wright, 2012). However as modern technologies surface, the training needs and knowledge required to offer new types of support are unclear.

Understanding the use, acceptance and experiences of different therapeutic applications of technology will inform training and decision making in student counselling. The e-learning strategy from the Higher Education Funding Council for England (HEFCE) views the application of technology as enhancing and transforming the learning experience, which adds efficiency to traditional methods (see Higher Education Funding Council for England, 2009). However, simply using technology does not necessarily enhance the learning (or therapeutic) experience and the purpose of technology must be clear to promote wider acceptability and adoption. For instance, a review of technology usage in HE found three common applications which: 1) replicated (e.g., online materials), 2) supplemented (e.g., audio recorded lectures), or 3) transformed (e.g., educational video gaming) existing teaching methods (Kirkwood, Adrian, Price, & Linda, 2014).

Replicating or supplementing existing methods were the most common uses of technology that was also associated with improved access and module grades (i.e. quantitative outcomes). Transforming existing methods were the least reported uses of technology, but when used they were associated with higher satisfaction, engagement

and retention (i.e. qualitative outcomes). Arguably, improving both quantitative and qualitative outcomes are desirable for demonstrating change within educational and therapeutic applications and identifying current applications will guide future intended use. Implementing technology in the therapeutic context has been accompanied by concerns that are not unique to student counselling. The most commonly reported concerns using technology for a therapeutic purpose include: lack of human contact, unknown data security and confidentiality, limited guidelines and regulations, low technology confidence, and gaps in training (Lester, 2006; Skinner & Lachford, 2006). Despite these concerns, internet-based psychotherapeutic interventions have been shown to be equally effective as face-to-face interventions (e.g., Bickmore, Gruber, & Picard, 2005; Reynolds, Styles, & Grohol, 2006).

Of note is a meta-analysis by Barak, Hen, Boniel-Nissim, and Shapira (2008) that found a large effect size from internet interventions addressing panic and anxiety (d=0.80; see Cohen 1988). When comparing different therapeutic approaches, Barak et al. (2008) found online Cognitive Behavioural Therapy (CBT) interventions to demonstrate the largest effect size compared to online psycho-educational or behavioural approaches (0.83, 0.46, and 0.23, respectively). These findings are especially applicable in the student counselling context where anxiety is highly reported (e.g., Eisenberg, Gollust, Golberstein, & Hefner, 2007) and where services have largely adopted online psychoeducation (Martin & Thomas, 2000; Sommers-Flanagan, Barrett-Hakanson, Clarke, & Sommers-Flanagan, 2007). In the student counselling context services offer a range of online support resources for individuals that are unable to attend or prefer alternatives to face-to-face counselling (e.g., King et al., 2006).

Offering online resources is particularly important since students lead increasingly busy lifestyles (e.g. paid employment, family, societies, and placements) that reduce their time on campus (Horstmanshof, 2004). Further complications are met with the increasing use of part-time/non-permanent therapists in student counselling services (as demonstrated earlier in Chapter 3A) and likely in response to funding reductions (Randall & Bewick, 2016). Both restrictions mean that face-to-face appointments rely on the overlapping availability of students and therapists that is also limited by service demand. Offering therapeutic technology as an adjunct to face-to-face or an out-of-hours resource has potential to bridge this gap and offer support all year round and to allow students to access support when they need it most. The

increasing use of mobile phones and emerging availability of mobile apps provide a novel solution to this need.

This is particularly relevant to students as 80 per cent regularly uses a mobile phone and the use of computer Tablets is on the rise (Poll, 2015). Furthermore, if mobile apps are considered acceptable in the student counselling context, then there is potential to explore the use of apps over more expensive resources such as commercial online platforms (e.g., Big White Wall; www.bigwhitewall.com). Despite the large body of research demonstrating the effectiveness of online interventions, few studies have extended to the student counselling context. This is somewhat surprising given that students live in a world immersed in technology and can readily adapt to modern technologies (Lewis, Coursol, & Khan, 2001). Moreover, understanding the intervention implications for students is important because client factors (e.g., access to resources and environment) have the greatest contribution to determining intervention outcomes (Doherty, Coyle, & Matthews, 2010). Aside from client factors, there are further considerations to ensure that modern technologies do not negatively impact on services by increasing therapists' workload, time commitments or responsibilities.

Being informed of the decisions and experiences of different services can save valuable time and finances as well as informing good practice (World Health Organization, 2005). Moreover, comparing experiences across different services (e.g., based on size or student type) will expose prior negative experiences of technology that may have been misused, misunderstood or implemented poorly. The current chapter aimed to address these uncertainties by identifying the use and acceptability of therapeutic technology in student counselling services.

3.8 Methods

3.8.1 Participants

Of the 113 survey responses from Chapter 3A, 43 (38%) heads of service expressed interest in completing telephone interviews. Only 27 (24%) respondents declined, and the remaining 43 (38%) did not reach the technology section of the survey. To capture a range of opinions, screening criteria were applied to participants' survey responses. First, services were ranked according to how many of the following they offered: 1) online therapy/eTherapy, 2) mobile phone apps, 3) online self-help, 4) online community, and 5) email counselling. Services were also ranked by the total number of students registered at their institution to ensure a range of service sizes were included.

Services were then identified from the top, middle and bottom of the ranked list and were selected if they agreed to any of the following: 1) "*I would like to track my clients' progression if I suggest an online programme*", 2) *"We cannot tell whether online resources help"*, 3) *"We need to better support online resources, but I'm not sure how"*, or 4) *"We have a great offering of online support and I am happy with how we support it"*. The decision to approach services based on these 4 questions was to ensure that a range of services were represented. The number of interviews completed was determined by information saturation (Guest, Bunce, & Johnson, 2006), which was met at 12 interviews and included 3 FE and 9 HE institutions with 2,500-38,313 students registered at the wider institution (see Table 3.8).

3.8.2 Interview questions

Interviews took place between July-September 2015 and addressed the following areas: 1) previous use and experiences of using therapeutic technologies, 2) the influence and purpose behind implementing therapeutic technologies, and 3) plans for adopting therapeutic technologies. Due to the inconsistent and often confused terminology used to refer to technology being used for therapeutic purposes (see Barak et al., 2008), interview questions opened broadly by asking heads of service how technology was used in their counselling service. Therefore, participants were encouraged to use their own interpretations of technology and follow-up questions were catered to match the types of therapeutic technology mentioned. Interview questions were emailed to heads of service two days before the interview to allow time to prepare answers.

The questions were formulated to inform various feasibility outcomes intending to be addressed in a feasibility trial described in later chapters. For example, the current use and future intentions for using technology in services helps to characterise how student counselling services are currently designed and the future planned developments. Interview questions concerning how technology was implemented will inform intervention strategies for the feasibility trial within the larger thesis. Finally, broad questions on student mental health – including what evidence would support services and what data should be collected – informs the data collection and planned dissemination of the overall thesis.

Table 3.8. Counselling service characteristics of the heads of service invited to interview based on the number of student registrations, sector, time in role, and scores from the eligibility screening process

Institution	Number of student registrations (2015)	Institution Sector (HE/FE)	Time in role (years)	Eligibility screen score*
York college	8,916	FE	5	10
School of Oriental and African Studies (SOAS) University of London	5,060	HE	15	9
University of Law	2,500	HE	2	9
University of Sheffield	25,664	HE	3	8
Weymouth College	2,500	FE	28	8
University of Aberdeen	16,500	HE	18	7
University of Bath	16,820	HE	12	7
De Montford University	20,000	HE	10	6
University College London (UCL)	38,313	HE	8	6
University of Bristol	20,000	HE	5	4
Salford City College	5,204	FE	2	4

*Based on answering 'yes' to any of the following questions: 1) "*I would like to track my clients' progression if I suggest an online programme*"; 2) *"We cannot tell whether online resources help"*; 3) *"We need to better support online resources, but I'm not sure how"*; or 4) *"We have a great offering of online support and I am happy with how we support it".*

3.8.3 Data collection

Respondents' answers were recorded through hand written notes taken by the researcher who conducted the telephone interview (EB). It was decided not to audio record interviews in order to encourage an informal discussion whereby heads of services could be more comfortable to express their opinion. As the interviews were semi-structured, planned questions were asked in an order that suited natural conversation and additional questions were asked to elaborate where appropriate. Written notes were typed immediately after and shared with respondents to approve/edit before planned analysis. Telephone interviews occurred on weekdays and during the day when heads of service were in their place of work. Therefore, participants self-selected their preferred environment in which to complete the

telephone interviews. On average interviews lasted 56 minutes (SD = 15.59, min = 43.64, max = 116.18) and provided a total data pool of 706 minutes.

3.8.4 Analysis

Notes from interviews were analysed with content analysis (Elo & Kyngäs, 2008) whereby frequencies of themes were recorded and converted into percentages to inform the prevalence of codes across different student counselling services. Once the codes and code clusters were identified, extracts from interview responses were explored in more detail to build a comprehensive understanding of the role of technology in student counselling services. Typed transcripts were inputted into data handling software NVivo (version 11) to be coded alongside other interviews.

3.9 Results

3.9.1 Online self-help

Online self-help was the most prominent type of technology mentioned across interviews (70% of services), jointly followed by email counselling and online registration (60% of services). Forms of online self-help, used in the past and to date, included: '*Big White Wall', 'Living Life to the Full', 'Beating the Blues'* and *'Fear Fighter'*. There were mixed opinions for various online self-help packages with the most noticeably negative experiences for '*Beating the Blues'*. Some participants described it as a *"complete failure"* with students *"categorically preferring face-to-face"* and staff feeling like it was the *"start of being replaced"* (Interviewee 2). Another commented that there was *"not enough up-take from counsellors"* and *"not enough demand from students"*, potentially because it is not *"student specific"* (Interviewee 3).

When discussing online self-help more broadly, participants viewed it as a *"bridge for individuals nervous about counselling"* that *"builds self-esteem"* and *"prepares clients for counselling"* (Interviewee 1). Participants expressed that online self-help *"catches a different market"* (Interviewee 5) and, when integrated with counselling, can *"add structure to counselling which some clients like"* (Interviewee 7). It was made clear that online self-help *"doesn't replace counsellors"* (Interviewee 5), but it can *"enhance* [the counselling experience]", *"provide access 24/7", "suit the student lifestyle"* and widen access for *"clients not ready for face-to-face counselling"* (Interviewee 10).

3.9.2 Email counselling

All participants expressed that email counselling is mainly available to students on placement and those unable to visit the counselling centre. Equally, the institutions that do not offer email counselling also do not have students on course placement and do not have the demand for it. Some participants expressed that email counselling is *"not advertised"* (Interviewee 5) and offered upon request as a means of *"maintaining engagement"* with clients whilst they are away from campus (Interviewee 6). Email counselling was described as *"maintaining support outside of face-to-face sessions for more vulnerable clients who do not have access to counselling when they need it the most"* (Interviewee 8), *"supplementing face-to-face counselling"* (Interviewee 9), and *"reinforcing counselling"* whereby issues raised in emails can be *"addressed in counselling, particularly if a client is resistant or problematic"* (Interviewee 8). Similarly, the overall preference was to use email counselling as a *"gateway to face-to-face"* (Interviewee 9).

3.9.3 Online registration

There were mixed views for online registration, but participants were more inclined to view it positively. Online registration was described as *"addressing the waiting list"* (Interviewee 3), *"providing data to demonstrate demand"* (Interviewee 2), *"simplifying administrative processes"* (Interviewee 8) and supporting the transition to becoming a *"paperless service"* (Interviewee 5). Online registration was linked to the service website that was viewed as equally important. For example, participants described their website as *"the front door to services"* (Interviewee 5), which *"links to all available services"* (Interviewee 6) and tries to *"acknowledge that not every student wants face-to-face"* (Interviewee 9). For services that did not use online registration, participants preferred clients to register in person and be assisted. Relatedly, several participants expressed uncertainties about the appropriateness of online registration as some questions can cause *"distress"* or *"confusion"* which may *"put-off clients"* (Interviewee 1). However, online registration was also a prominent consideration for future service developments if staff concerns can be addressed.

3.9.4 Influences on implementing technology

Both clinical (30%) and administrative (20%) team members were the primary influence

for implementing technology as well as a drive to *"stay up-to-date"* (30%). Specifically,

influence came from staff who were *"trained, experienced and interested in online*

counselling" that was later encouraged by *"new interested counsellors"* (Interviewee 9)

to request training. This overlaps with having a designated member of staff to ensure

that services are updated with the latest news, research and resources available.

3.9.5 Reasons for using technology in services

Various technologies were described as time efficient, effective, flexible, and widening

access, which were the main reasons for implementing technology (Figure 3.4). The

main technology described as time efficient was using SMS text messaging to

communicate with clients. The text service was particularly popular amongst institutions

with students aged 14-19 years old (i.e. FE), as texting was viewed as *"less threatening"*

(Interviewee 2) than telephone calls, and clients were more responsive. Participants also

viewed text messages to be private for clients in this age group as it is not uncommon

for parents to monitor young students' email accounts. Even outside of this age bracket,

the text service was viewed favourably when used to offer last minute cancellations to

clients on the waiting list. The text service can also be used to send automated

reminders for upcoming appointments which students find "reassuring" (Interviewee 8).

Figure 3.4. Heads of services' reasons for implementing technology in student
counselling services
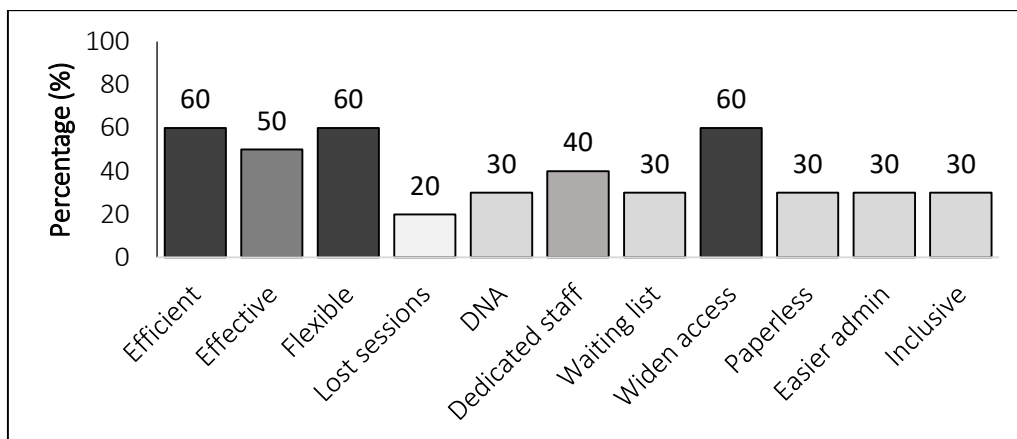
*DNA = to address the Did Not Attend (DNA) rate

3.9.6 Concerns about technology use in counselling

There were several concerns about using technology in counselling services including: 1)

data confidentiality/security, 2) client risk, 3) varied quality, and 4) lack of confidence

from therapists. Regarding data confidentiality/security, participants were concerned with therapists offering counselling via *Skype* and similar videoconferencing products that have not been designed to be used clinically and the levels of data security are not comparable to standards in the National Health Service (NHS). When raising these concerns, participants described internet connectivity issues which are distressing for both clients and therapists and have led to student complaints, counsellors questioning whether they can manage the technical requirements, and counsellors preferring face-to-face; it's *"what they already know"* (Interviewee 6).

Finally, participants viewed that *"something gets lost when you don't use face-to-face"* (Interviewee 6) which *"lacks human contact"* (Interviewee 8) and can create challenges for clients to communicate their concerns or exaggerate the severity of their needs. Aside from compromised data confidentiality, there were also concerns for clients misusing online forums to reinforce or escalate existing problem behaviours (e.g., self-harm or disordered eating). This concern related to a lack of policing of online forums and counsellors were concerned that they had no control over the content.

3.9.7 Methods used to address concerns about technology in counselling

Heads of service described two methods they used to address concerns including staff training and establishing links with the IT department. Regarding training, participants viewed the training needs for technology skills in *"the same way as any other new skill which requires training"* (Interviewee 3) and ensured that: 1) counsellors engaged and interested in technology were put forward, and 2) only counsellors who had received appropriate training delivered used technology in a therapeutic way (e.g. email counselling). Aside from targeted training, participants ensured that the wider therapeutic team were provided with up-to-date information about apps and other online resources so they had confidence to recommend them. One participant described this as *"equipping counsellors to restore the balance of the therapeutic relationship"* (Interviewee 8), which may be lost when clients inform counsellors about different apps and technology available.

3.9.8 Future research viewed to be important

Whilst the primary aim of interviews was to understand the role of technology in student counselling, a secondary aim was to understand which outcomes are important to measure in student counselling. The latter relates to the larger focus of this thesis

that explores the impact of counselling services. The majority (80%) of participants believed that outcomes relating to academia were the most important, which could include: 1) the impact of mental health on study interruptions, 2) keeping students at university when they consider dropping out, 3) supporting students to achieve academic success, 4) helping students to cope with academic demands/stressors, 5) identifying course subjects which put students at higher risk for mental ill-health, 6) enhancing students' experience of university and their ability to engage with academia, and 7) ensuring that students can contribute to society (e.g., through employment) when they leave university. Next to academic outcomes, participants considered clinical outcomes and service satisfaction to be important.

Specifically, clinical outcomes were important to feedback to counsellors to monitor client progress. In line with demonstrating change, several participants viewed that clinical outcomes demonstrate severity to managers that *"shows how much counsellors must work"* (Interviewee 7) and informs the need for resilience among students (Interviewee 1-12). Service satisfaction was equally important to demonstrate how the counselling service contributes to the wider institution (i.e. students satisfied with the service and overall university experience). Participants also explained that *"counsellors listen to student feedback"* (Interviewee 7) and that it was a powerful tool for implementing change and reinforcing decisions. Relatedly, participants raised issues about *"convincing"* counsellors to collect data as clinical forms were typically seen as a *"form filling exercise"* that *"doesn't benefit clients"* and serves the purpose to *"reduce counsellor's anxieties"* (Interviewee 12). For example, when one participant asked the therapeutic team *"how do we know what we do is good and makes a difference?"*, the overwhelming response was *"we just know"* (Interviewee 7).

3.10 Discussion

Progressing from Chapter 3A, which characterised UK student counselling services, the interviews in Study 2 aimed to identify the usage and acceptability of using technology in student counselling. Whilst there were many reasons for implementing different technologies, the overwhelming perception was that technology could be time efficient, flexible and wide reaching. The acceptability of technology heavily relied on engaging with therapists that were interested in using technology as well as providing training to address concerns of quality or confidence. Throughout the interviews the importance of student specificity was raised whereby heads of services stressed the importance of offering therapeutic technologies relevant to student needs (e.g., exam stress, social

anxiety, or time management). This theme also emerged when discussing the needs for research and clinical measures whereby evidence is needed to demonstrate how services contribute to students' academic coping, the university experience and the wider needs of the institution.

The acceptability of therapeutic technology varied according to the needs of the service, clarity of purpose, and therapist experience. For example, when online self-help was introduced as an adjunct to counselling it was viewed as a gateway to counselling that could prepare anxious students to engage with therapy and provided support outside of counselling. By contrast, when technologies were implemented without a clear purpose or without staff interest, it triggered fears of being replaced and resistance. This finding is unsurprising as technology anxiety and acceptability are heavily dependent on users' level of experience with technology (Mallen, Vogal, Rochlen, & Day 2005). Relatedly, using therapeutic technology required staff that are interested, committed and trained for the precise purpose of using a given technology and successful implementation was influenced by staff expressing an interest in technology. The main intentions of implementing technology were to widen access, encourage flexible working styles, increase effectiveness, promote efficiency and stay up to date with modern times.

The most common technology that met these needs was the use of text messaging - or more broadly the use of mobile devices – which were viewed favourably for reaching students in a fast, discrete, and convenient manner. Using mobile phones to engage with students is particularly advantageous because their time on campus is restricted and is dependent on various commitments. For example, part-time employment in HE is becoming commonplace and students are progressively working more hours each week (Moreau & Leathwood, 2006). The rate of students living with parents is also on the rise in the UK, which currently accounts for 25% of the student population and is expected to reach 50% in 2020 (Pokorny, Holley, & Kane, 2017; Taylor, 2011). These emerging trends not only restrict the amount of time spent on campus, but also the amount of time available to seek/receive help for a mental health concern. Offering and maintaining mental health support via a mobile device could address some of these challenges.

The final prominent theme was managing client risk, as some components of therapeutic technology were perceived to increase student vulnerability. There were many factors that exasperated concerns over client risk. However, these concerns were

often associated with technology that has not been designed to be used therapeutically (e.g., Skype and email). Nonetheless, even resources designed with a clinical purpose (e.g., online self-help or forums) introduced risk of being misused by clients or exposing clients to inappropriate content. Aside from emphasizing the importance of therapists protecting their clients, these factors raised concerns for invalidating therapists. For instance, a lack in confidence in using technology led to the perception that the therapeutic relationship is disrupted when students are more informed than therapists. This is unsurprising since therapist training programmes do not typically include therapeutic technologies and using technology in the therapeutic context is a relatively new and evolving concept (West, 2015). Findings from the current study indicate that providing training to address this gap helped to address therapists' concerns, reduce resistance, and restore the therapeutic relationship.

3.11 Chapter summary

Several challenges to student counselling services were raised in Chapter 3 and five key messages can be taken forward. (1) *Student specificity* for measuring outcomes and offering therapeutic technology. Interventions and measures in the student counselling context must be flexible, relevant to academic needs, adaptable to client needs, and are anticipated to be short-lived. (2) *Implementation* of new interventions heavily relies on engaging with services and therapists that are interested in and committed to the intervention. The purpose of implementation needs to be clear and involve therapists throughout the process. (3) *Supplementing* existing face-to-face counselling with therapeutic technology has the potential to alleviate concerns of client risk, reinforce engagement outside of counselling and reach students who may not wish to engage with traditional face-to-face counselling. (4) *Technology* promotes flexible working, widens access, streamlines administrative tasks, and helps services to be more efficient. Mobile apps received the most interest and show potential for offering a more affordable alternative to commercial online platforms, but it remains an understudied area. (5) *Training* is critical to promote confidence in technology use and to demonstrate clear intentions of use. Training would also benefit from being informed by students, as therapists are most responsive to student/service feedback.

Chapter 4: Measuring distress in help-seeking university students: acceptance, feasibility, and initial psychometric properties of the Counseling Center Assessment of Psychological Symptoms

4.1 Chapter overview

Chapters 2 and 3 introduced issues arising from the underutilization of clinical outcome measures in university counselling services that highlighted difficulties not only in understanding the severity of student mental health needs, but also in demonstrating service effectiveness. Earlier studies reported in this thesis also found large inconsistencies in the data collected in UCSs and uncertainties as to which measures are relevant to students. For instance, whilst the CORE-OM was the most commonly reported measure in UCSs, it was not designed to measure student-specific distress. Promisingly, Chapter 3 also identified services that already use a recently developed clinical measure designed to fulfil the clinical and research needs of UCSs – the Counseling Center Assessment of Psychological Symptoms (CCAPS-62). However, the CCAPS was developed from a US student sample and its application in the UK is untested. Chapter 4 has the following aims: 1) provide the initial validation of the CCAPS in the UK through comparisons with the CORE-OM; 2) characterise the symptom profile of UK help-seeking students in comparison to US published data; and 3) identify the feasibility and acceptability of using the CCAPS in a UK context.

This study has been published with the full citation being: Broglia, E., Millings, A., Barkham, M. (2017). The Counseling Center Assessment of Psychological Symptoms (CCAPS-62): Acceptance, feasibility, and initial psychometric properties in a UK student population. *Clinical Psychology and Psychotherapy*. doi: 0.1002/cpp.2070. It has been adapted slightly to complement the thesis.

4.2 Introduction

The increased demand of student mental health has become a global phenomenon and has reached parliamentary debate in the UK (see Parliament UK, 2017). UK initiatives have widened university participation such that students no longer represent a privileged group of society (Sarmento, 2015). Through this growing attendance, students are approaching counselling services at an overall higher demand and with more complex mental health needs (Holm-Hadulla & Koutsoukou-Argyraki, 2015). For example, although depression and anxiety are still the most common mental health concerns in students, recent reports have demonstrated a rise in student-specific

concerns such as academic distress, substance misuse, family upset, and financial burden (Doerr et al., 2015; Murray, McKenzie, Murray, & Richelieu, 2015). However, inconsistencies in service data have made it difficult to illustrate current trends in the UK, and consequently services have struggled to access resources to support growing demands. During a time of meaningful change, the need for UK data on student mental health is paramount for service development and decision making.

With this increasing financial pressure, counselling services in higher education have been challenged to demonstrate their impact on student well-being and the wider educational institution (McCarthy, 2016). However, it has been difficult to demonstrate the specific impact on aspects of student mental health when clinical measures have typically been designed for a nonstudent population. Measures used with samples of UK students include the General Health Questionnaire (Goldberg & Williams, 1991—see Macaskill, 2013); the General Population-Clinical Outcomes in Routine Evaluation (Sinclair et al., 2005—see Cooke, Bewick, Barkham, Bradley, & Audin, 2006); and the 10-item version of the Clinical Outcomes in Routine Evaluation (CORE-10; Barkham et al., 2013—see Bewick, Koutsopoulou, Miles, Slaa, & Barkham, 2010). Although it is beneficial to use any clinical measure rather than none, capturing information that is specific to users ensures that services remain responsive. Furthermore, evidence suggests that focusing on student mental health results in more nuanced data capture and finer analysis of treatment outcomes (Rückert, 2015).

In the US, such concerns have led to the development of a clinical instrument specifically for student counselling services—the Counseling Center Assessment of Psychological Symptoms (CCAPS; Locke et al., 2011; McAleavey et al., 2012). The measure has been widely adopted in US colleges as an instrument that is relevant to the student context (e.g., academic distress, family distress, and social anxiety) and can monitor changes even in brief therapy (McAleavey et al., 2012). Although CCAPS was designed for US college counselling services, its specificity to the student context has considerable potential for use in the UK, where it is yet to be validated. This lack of evidence limits its utility in UK counselling services. The current study aimed to address these issues by evaluating the feasibility and acceptance of CCAPS in a UK student clinical sample, obtaining preliminary psychometric data on the assessment capability of the measure, comparing profiles with US norms, and benchmarking overall distress levels against the CORE-10 (Barkham et al., 2013).

By benchmarking CCAPS against the CORE-10, a clinical measure used to detect distress in the clinical population, the current study also aimed to explore the potential

benefits of using a student-specific measure in student counselling services over a measure of general functioning. The full version of CCAPS comprises 62 items (CCAPS-62), is administered at initial assessment, and comprises eight scales: depression, generalised anxiety disorder/GAD, social anxiety, academic distress, eating concerns, family distress, hostility, substance abuse, and an overall Distress Index (DI) drawing on items from most of the scales. As a clinical instrument, CCAPS-62 detects early signs of risk and can demonstrate clinical severity between different student groups.

For example, CCAPS data has highlighted the severity of academic distress in students attending university away from their birth country, when compared to students attending a university in the same country (Locklard, Hayes, McAleavey, & Locke, 2012). Evidence has also shown CCAPS to predict later diagnosis of social phobia when used at the initial assessment (McAleavey et al., 2012). Furthermore, because of the specificity of measuring student psychological distress, the CCAPS provides a unique opportunity to explore potential benefits of using a population specific measure over a measure of overall functioning. For example, by comparing the severity of academic distress, substance abuse, social anxiety, and other student-specific concerns with the severity of overall distress (according to both the CCAPS and CORE-10), the potential added benefit of measuring contextual symptoms can be explored.

Evaluating the validity of the CCAPS-62 in the UK is particularly important because its utility may vary across different countries, and the presentation of psychological symptoms has been shown to vary in different student samples (Kreß, Sperth, Hofmann, & Holm-Hadulla, 2015; Villacura et al., 2015; Yang, Lin, Zhu, & Liang, 2015). For example, a recent global report found that UK students displayed specific risk for separation distress and conflict between family and studies. By contrast, students in Austria, Germany, and Sweden displayed specific risk for psychosomatic issues, exam anxiety, and personal identity issues (Rückert, 2015). Even reports within the US have demonstrated an increase in major depression, anxiety, financial distress, personality disorders, and suicidality (Prince, 2015). With large variations in symptom severity and presentation across different student groups, it is important to understand how the CCAPS-62 functions in a sample of UK students. Furthermore, using CCAPS to capture information on student mental health in the UK will allow comparisons to be made with other student groups and shed light on global trends.

The current study aimed to address this need by examining CCAPS data from a sample of students at two universities who were receiving counselling from their respective University Counselling Service (UCS). Through this comparison, the current

study aimed to determine: 1) the acceptability and feasibility of the CCAPS-62; 2) its reliability and factor structure; 3) comparisons with reported US data; and 3) comparisons between the overall DI and the CORE-10.

4.3 Method

4.3.1 Design and setting

The study adopted a cohort design comprising students attending one of two UK University Counselling Services during the period April to July 2015. One setting was a large university within a city context (approx. 25,500 students) and the other a smaller university in a town-rural setting (approx. 10,500 students). The study received approval from the Department of Psychology University Research Ethics Committee at the University of Sheffield prior to any data collection (Ref:1144; Appendix D1-2).

4.3.2 Participants

Participants were 294[4] students (59.6% female) accepted for counselling with a mean age of 22.2 years (SD = 4.42; min = 18, max = 54). Students were predominately undergraduate (68%) with 13% studying at master degree level, 8% completing postgraduate research such as PhD, and 8% completing 'other' types of degrees. The most common degree subjects included: science (28.2%), social science (19.4%), arts and humanities (18.4%), engineering (14.3%), and nursing/dentistry/medicine (8.8%).

4.4 Measures

4.4.1 Counseling Center Assessment of Psychological Symptoms (CCAPS-62)

CCAPS-62 (Locke et al., 2011) comprises eight scales: 1) depression (13 items; e.g., *I feel worthless*); 2) generalised anxiety (9 items; e.g., *I have spells of terror or panic*); 3) social anxiety (7 items; e.g., *I feel uncomfortable around people I don't know*); 4) academic distress (5 items; e.g., *It's hard to stay motivated for my classes*); 5) eating concerns (9 items; e.g., *I feel out of control when I eat*); 6) family distress (6 items; e.g., *I wish my family got along better*); 7) hostility (7 items; e.g., *I have difficulty controlling my temper*); and 8) substance abuse (6 items; e.g., *I drink alcohol frequently*). Items refer to the previous two weeks and are scored on a 5-point Likert scale (0 = *'not at all like me'*; 4 = *'extremely like me'*), whereby higher scores indicate higher symptom severity. In

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[4]Site 1 contributed data from 215 students [59.9 percent female] mean age 21.6 [min = 18, max = 48, SD = 3.38]. Site 2 contributed data from 79 students [58.2 percent female] mean age 24.2 [min = 19, max = 54, SD = 5.88].

addition, CCAPS-62 yields a distress index (DI) that comprises 19 items drawn from specific subscales including depression (6 items); generalised anxiety (5 items); social anxiety (2 items); academic distress (3 items); and hostility (3 items).

As well as providing a measure of overall distress, the CCAPS DI can be used to determine whether a client meets clinical criteria with a score of ≥ 1.2 indicating levels of distress expected for students receiving counselling, with elevated levels of distress indicated by a score of ≥ 2.15. Within each subscale are two clinical thresholds, termed *low clinical* (LC) and *elevated clinical* (EC), which detail clinical risk on discrete symptoms and may be used to facilitate clinical judgement about clients' appropriate treatment pathway based on whether they meet low clinical criteria for a given symptom or whether they meet high clinical criteria suggesting a potentially diagnosable concern (e.g. depression). These thresholds are based on percentiles established from a large normative sample (approx. 250,000) of students receiving therapeutic support. The sample predominately comprises students from the USA who have contributed to the dataset over several years. As a clinical instrument, the CCAPS-62 has been shown to be sensitive to change and possess good test-retest reliability in student samples[5] (McAleavey et al., 2012).

4.4.2 Clinical Outcomes in Routine Evaluation (CORE-10)

The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM; Barkham et al., 2001) has been used extensively in primary care services in the UK for over a decade to provide measures of psychological functioning (Barkham, Culverwell, Spindler, & Twigg, 2005; Evans et al., 2000). The shortened 10-item version (CORE-10; Barkham et al., 2013) has also been validated against CORE-OM (yielding a 0.94 correlation), has been shown to be sensitive to change, and provides a measure of general psychological functioning. Items refer to the previous week and are scored on a 5-point Likert scale (0 = *'not at all'*; 4 = *'most or all of the time'*), with higher scores indicating higher symptom severity. The CORE-10 total provides a measure of overall psychological functioning that may be derived by calculating the mean (rather than the sum) of all items. This version of calculating the CORE-10 total has been used in previous research and does not impact on its psychometric properties but make the scores directly comparable with the CCAPS-62 (i.e., range 0-4).

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[5]Whereby week 1 co-efficients for all 8 subscales ranged 0.78-0.93; week 2 co-efficients ranged 0.76-0.92

Furthermore, to permit clinical comparisons with literature using the CORE-10 total as the sum of items, the comparative CORE-10 total can be converted by multiplying the CORE-10 mean by 10. As well as providing a measure of overall psychological functioning, the CORE-10 total can be used to determine whether a client meets clinical criteria. Specifically, the CORE-10 clinical cut-off for general psychological distress is ≥ 11.0 and was determined by using Jacobson and Truax's (1991) formula that identified the cut-point between a combined clinical and non-clinical dataset. Therefore, a score of ≥ 11.0 can be used to differentiate clinical from non-clinical membership (see Barkham et al., 2013).

4.5 Procedure

The use of CCAPS-62 at initial assessment was standard practice at both participating sites and both sites had previously used CORE in one of its formats. Any newly registered student, approved for counselling between April-July 2015, was eligible to participate. An opt-out procedure was used to allow students to withdraw their data from planned analyses. A study guide was developed and shared with staff to encourage standardisation and allocate order of administration (see Appendix D1). Posters and information leaflets were displayed in the waiting rooms and raised by staff administering the electronic forms, to ensure that clients were informed and had the opportunity to opt-out. Any clients who elected not to participate (and therefore did not complete the additional CORE-10 form) were excluded from the dataset, but were seen in line with standard practice (i.e. were assessed and offered counselling).

4.6 Analytic strategy

All analyses were performed in SPSS statistics package (version 21). Factor Analysis was used to explore the factor structure of CCAPS-62 when applied in the UK. Due to the potential differences in the kinds of distress experienced in student populations in different countries, the current study did not seek to simply replicate the factor structure previously obtained in US samples. Therefore, Exploratory Factor Analysis (EFA) was used instead of Confirmatory Factor Analysis (CFA) to allow items to freely vary and permit the underlying constructs in the UK to be different to those found in the US. There are many judgements to be made in EFA and it is common to explore alternative methods. For the current study, the Principle Axis Factor (PAF) extraction method was employed with direct oblimin rotation to examine covariation between the 62 items. PAF and Maximum Likelihood (ML) extraction methods have been deemed relevant for exploring counselling psychology measures (Kahn, 2006).

Both extractions were used separately to explore the stability of the factor solution. Whilst both methods yielded similar factors, PAF has been reported because it is more robust in scenarios where multivariate normal distribution has been violated (Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999). Direct oblimin rotation, as an oblique rotation method, was used over orthogonal rotation methods because items and factors were anticipated to correlate. Furthermore, alternative oblique rotation methods were explored and yielded the same factor solution. Reliability analysis was used to explore each CCAPS subscale and compare against published US data. Further comparisons were made between UK and US CCAPS subscale means to explore differences in symptom severity. Clinical severity was also explored within the UK sample to determine the percentages of students that met low-clinical and elevated-clinical caseness. As measures of overall psychological functioning, the clinical cut-offs of CORE-10 total and CCAPS DI were used to group the sample into 'non-clinical' and 'clinical' to explore potential discrepancies in clinical criteria. Similarities between CORE-10 and CCAPS were also explored with correlations to determine the strength of relationships between CORE-10 and each CCAPS subscale.

4.7. Results: Acceptability and feasibility of CCAPS-62 as an initial assessment

4.7.1 Completion of measures

Across both UCSs, 401 students (city UCS = 234, rural UCS = 167) completed the CCAPS-62 and CORE-10 forms at their initial clinical assessment between April and July 2015. Of the 401 students, 107 (city UCS = 19, 4.7%; rural UCS = 88, 21.9%) did not go on to receive counselling and were excluded from analyses. Hence the dataset employed in the analyses comprised 294 (73.3%) students: city UCS = 215, (73.1%); rural UCS = 79, (26.9%). Members of staff administering the forms reported that there were no refusals from students.

4.7.2 Missing items

The overall rate of missing items on the CCAPS-62 in the UK sample was 0.002% (38 missing items/ 18,228 data points[6]). At the individual item level, item 41 *"I am concerned that other people do not like me"* was omitted by 4 people (1.4%) while item 30 *"I feel tense"* and item 45 *"I feel irritable"* were omitted by 3 people (1%). A further seven items were omitted by 2 people (0.7%) and are as follows: "I feel disconnected from myself" (item 10), "my thoughts are racing" (item 18), "I feel worthless" (item 20),

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[6]CCAPS-62 items for 294 individuals

"I have difficulty controlling my temper" (item 32), and "I purge to control my weight" (item 48). By comparison, for the CORE-10 the only item omitted was item 10 *"unwanted images or memories have been distressing me"* by 2 people (0.7%). On the CCAPS-62 there was no evidence of fatigue effects as the relationship between item number and the number of missing items was not significant (r = 0.034, p = 0.80). The substance abuse scale was the only CCAPS-62 scale with complete data, even though family distress and academic distress contain the same number of items.

4.7.3 Average time taken to complete the forms and ease of scoring

As part of routine practice, students arrived 10 minutes before their appointment to complete CCAPS-62. Additional items from the CORE-10 were also completed within the allocated time and there were no reports of students requiring >10 minutes to complete both forms. Both UCSs electronically administered CCAPS on computer tablets that wirelessly connected to a secure computer system. Therefore, the computer system automatically scored CCAPS and created a summary report, which was viewable by therapists before meeting with clients. Alongside CCAPS, a CORE-10 form was created on the computer system and used for data collection purposes only; therapists were not required to review CORE-10 results before meeting with clients.

4.7.4 Percentage of students scoring maximum scores on each scale

Potential ceiling effects were explored by calculating the percentage of students who obtained maximum scores on any scale. Maximum scores were found in 4.8% (n = 14) of students experiencing academic distress and in 0.7% (n = 2) of students with eating concerns. Students did not obtain maximum scores on the remaining scales including: depression, generalised anxiety, social anxiety, family distress, hostility, substance abuse, and the CORE-10 total.

4.8 Results: Psychometric properties of CCAPS-62

4.8.1 Exploratory Factor Analysis (EFA)

Sixty-one of the 62 items correlated with at least one other item at 0.3 and above, demonstrating reasonable factorability. The Kaiser-Meyer-Olkin measure verified sampling adequacy (KMO = 0.86) and the Bartlett's test of sphericity was significant (χ^2 (171) = 2778.15, $p < 0.001$), suggesting that correlations between items were sufficient for analysis. As shown in Table 4.1, the commonalities between items were above .40 and the factors remained clear, even at a more conservative factor loading of .65 (40%

overlapping variance), thereby confirming common variance with other items. The scree plot displayed an inflection at Factor 8, which was also the last substantial drop in Eigenvalues (see Appendix D3). Both criteria suggested retaining 8 factors that collectively explained 54% of the variance. Table 4.1 displays the factor loadings from the pattern and structure matrices (before/after item rotation) which include: depression (4 items), substance abuse (6 items), eating concerns (8 items), GAD (7 items), family distress (6 items), social anxiety (7 items), hostility (7 items), and academic distress (5 items). The pattern and structure matrices were typically consistent and items within each extracted factor were congruent with the intended CCAPS subscales.

4.8.2 Internal reliability

Reliability analyses on the CCAPS-62 data showed Cronbach alpha values for the eight subscales and the Distress Index to range from 0.81 to 0.89 (see Table 4.2), indicating good internal reliability for all subscales.

4.9 Results: Comparisons between CCAPS-62 and CORE-10

4.9.1 Correlational analysis

As data were normally distributed, Pearson's correlation was used to explore the strength of the relationship between CORE-10 and each of the CCAPS-62 sub-scales. All CCAPS-62 subscales correlated significantly with the CORE-10: depression ($r = .75$, $p < .001$); general anxiety ($r = .65$, $p < .001$); social anxiety ($r = .34$, $p < .001$): academic distress ($r = .44$, $p < .001$); eating concerns ($r = .31$, $p < .001$); family distress ($r = .30$, $p < .001$); hostility ($r = .42$, $p < .001$); substance misuse ($r = .14$, $p = .034$); and distress ($r = .77$, $p < .001$). The strongest correlation occurred between the CORE-10 total and CCAPS DI (i.e., distress) followed by depression and general anxiety. The weakest correlation was between CORE-10 and family distress followed by eating concerns, social anxiety, hostility and academic distress.

Table 4.1. Factor loadings from pattern and structure matrices of Exploratory Factor Analysis (EFA) on CCAPS-62 items (n = 294)

		Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6		Factor 7		Factor 8	
		Depression		Substance Abuse		Eating Concerns		GAD		Family Distress		Social Anxiety		Hostility		Academic Distress	
		P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S
55	*I like myself(R)*	.50	.63														
20	*I feel worthless*	.50	.66														
23	*I feel helpless*	.44	.59														
62	*I feel that I have no one who understands me*	.42	.55														
49	*I drink more than I should*			.84	.85												
26	*I drink alcohol frequently*			.82	.81												
29	*When I drink alcohol, I can't remember what happened*			.77	.78												
56	*I have done something I have regretted because of drinking*			.75	.76												
50	*I enjoy getting drunk*			.73	.73												
24	*I use drugs more than I should*			.41	.44												
25	*I eat too much*					.85	-										
13	*I think about food more than I would like to*					.80	.80										
5	*I feel out of control when I eat*					.79	.81										
31	*When I start eating I can't stop*					.77	.77										
61	*The less I eat, the better I feel about myself*					.66	.67										
22	*I am dissatisfied with my weight*					.65	.69										
34	*I diet frequently*					.62	.61										
19	*I am satisfied with my body shape (R)*					.59	.64										
27	*I have spells of terror or panic*							-.65	-.70								
4	*My heart races for no good reason*							-.65	-.68								
14	*I am anxious that I might have a panic attack while in public*							-.61	-.68								
33	*I am easily frightened or startled*							-.56	-.59								
18	*My thoughts are racing*							-.55	-.63								
3	*There are many things I am afraid of*							-.51	-.57								
30	*I feel tense*							-.48	-.51								

Loadings <.40 have been suppressed. P = pattern matrix factor loading. S = structure matrix factor loading.

Table 4.1. (cont'd)Factor loadings from pattern and structure matrices of EFA on CCAPS-62 items (n = 294)

		Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6		Factor 7		Factor 8	
		Depression		Substance Abuse		Eating Concerns		GAD		Family Distress		Social Anxiety		Hostility		Academic Distress	
		P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S
21	*My family is basically a happy one(R)*									-.88	-.83						
42	*I wish my family got along better*									-.76	-.76						
1	*I get sad or angry when I think of my family*									-.69	-.70						
11	*My family gets on my nerves*									-.67	-.71						
7	*I feel that my family loves me (R)*									-.65	-.64						
38	*There is a history of abuse in my family*									-.43	-.47						
2	*I am shy around others*											.79	.79				
44	*I feel uncomfortable around people I don't know*											.71	.73				
35	*I make friends easily (R)*											.64	.66				
47	*I feel self-conscious around others*											.45	.56				
54	*I feel comfortable around other people (R)*											.44	.47				
16	*I become anxious when I have to speak in front of audiences*											.43	.46				
41	*I am concerned that other people don't like me*											.42	.56				
43	*I get angry easily*													.80	.79		
32	*I have difficulty controlling my temper*													.76	.75		
36	*I sometimes feel like breaking and smashing things*													.72	.72		
52	*I am afraid I may lose control and act violently*													.64	.67		
57	*I frequently get into arguments*													.50	.55		
60	*I have thoughts of hurting others*													.46	.48		
45	*I feel irritable*													.41	.52		
53	*It's hard to stay motivated for my classes*															.76	.78
59	*I am unable to keep up with my schoolwork*															.71	.72
51	*I am not able to concentrate as well as usual*															.60	.63
6	*I enjoy my classes(R)*															.57	.63
15	*I feel confident that I can succeed academically (R)*															.48	.57

4.9.2 Clinical Cut-off

Comparisons were made between the CCAPS DI and the CORE-10 as measures of overall psychological distress. The clinical cut-off on each measure was used to group the sample into 'non-clinical' and 'clinical' to determine the extent of agreement and discrepancies in clinical caseness or not caseness across each measure. A total of 85.3% students met the clinical threshold on CCAPS DI (a score ≥ 1.21) while 90.1% of students met the clinical threshold on the CORE-10 (a score ≥ 1.1). The scatter diagram in Figure 4.1 demonstrates that 92.8% of students were classified in the same way across CCAPS DI and CORE-10, with 86.3% of students categorized as clinical and 6.5% non-clinical on both measures.

Table 4.2. Alpha values for CCAPS-62 subscales and CORE-10 derived from UK data and compared to values from US samples

		UK sample	US comparative data		
	Items	α (n = 294)	α (n = 59,606)[1]	α (n = 14,818)[2]	α (n = 46)[3]
CCAPS-62					
Depression	13	0.85	*0.92*	*0.91*	*0.93*
GAD	9	0.81	*0.85*	*0.85*	*0.78*
Social Anxiety	7	0.82	*0.84*	*0.84*	*0.83*
Academic Distress	5	0.81	*0.82*	*0.82*	*0.92*
Eating Concerns	9	0.89	*0.89*	*0.90*	*0.89*
Family Distress	6	0.84	*0.83*	*0.83*	*0.92*
Hostility	7	0.83	*0.86*	*0.86*	*0.91*
Substance Abuse	6	0.87	*0.85*	*0.84*	*0.86*
Distress Index	19	0.86	*0.92*	*0.92*	-
CORE-10 total	10	0.80	-	-	-

1 = normative sample from CCAPS clinical manual (See Center for Collegiate Mental Health, 2015); 2 = thesis comparing CCAPS with OQ-45 on USA student sample (Duszak, 2014); 3 = CCAPS test-retest analysis on USA student sample (Locke et al., 2011).

The remaining 7.2% discrepancy resulted in students meeting clinical criteria on one measure but not the other for each measure. Further comparisons utilised thresholds from the US norms that distinguished between non-clinical, low-clinical and elevated-clinical groups on the CCAPS-62. This revealed that the largest elevated-clinical group existed for depression, followed by academic distress, GAD and social anxiety (see Figure 4.2). The highest percentage of students who met non-clinical criteria existed for eating concerns, substance abuse, and hostility.

Figure 4.1. Clinical overlap between CORE-10 total and CCAPS-62 Distress Index, according to the clinical boundaries provided by each measure

A: Clinical on CORE-10 and non-clinical on CCAPS DI (5.8%)
B: Clinical on CORE-10 and clinical on CCAPS DI (86.3%)
C: Non-clinical on CORE-10 and non-clinical on CCAPS DI (6.5%)
D: Non-clinical on CORE-10 and clinical on CCAPS DI (1.4%)
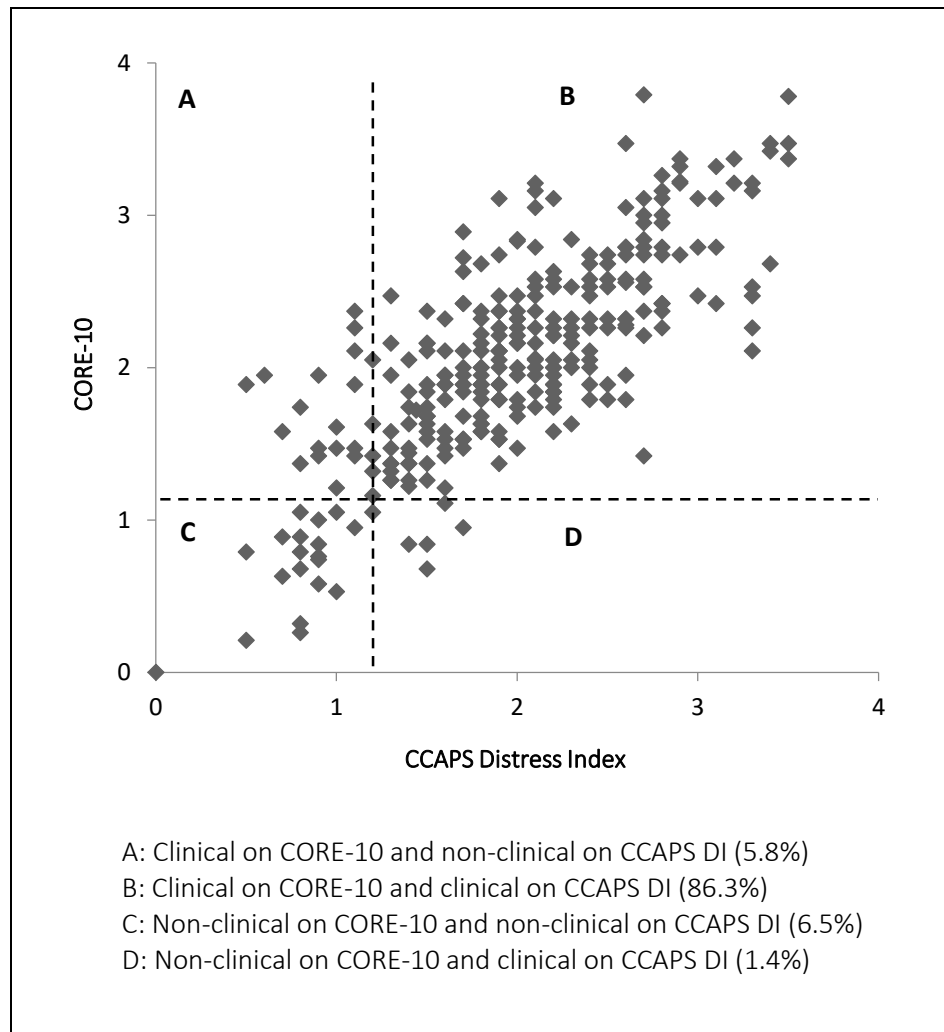
4.9.3 Profiles of UK sample and comparisons with US norms

The final stage of validation included a comparison of mean subscale scores with published US data from various sources. Table 4.3 reports the means and their rank order together with SDs for the CCAPS-62 subscales compared to published US norms. A Pearson correlation of the UK and US symptom ranks indicates a strong positive and significant relationship ($r = 0.93$, $p < 0.001$). With the UK sample, highest scores are for academic distress, depression, GAD and social anxiety. These levels and rankings are also presented in the box and whisker plot in Figure 4.3 that shows two distinct symptom clusters based on severity scores for the eight subscales.

Figure 4.2. Percentage of students that met non-clinical, low-clinical and elevated-clinical status on CCAPS-62 subscales at the initial assessment for counselling at two embedded student counselling services in the UK
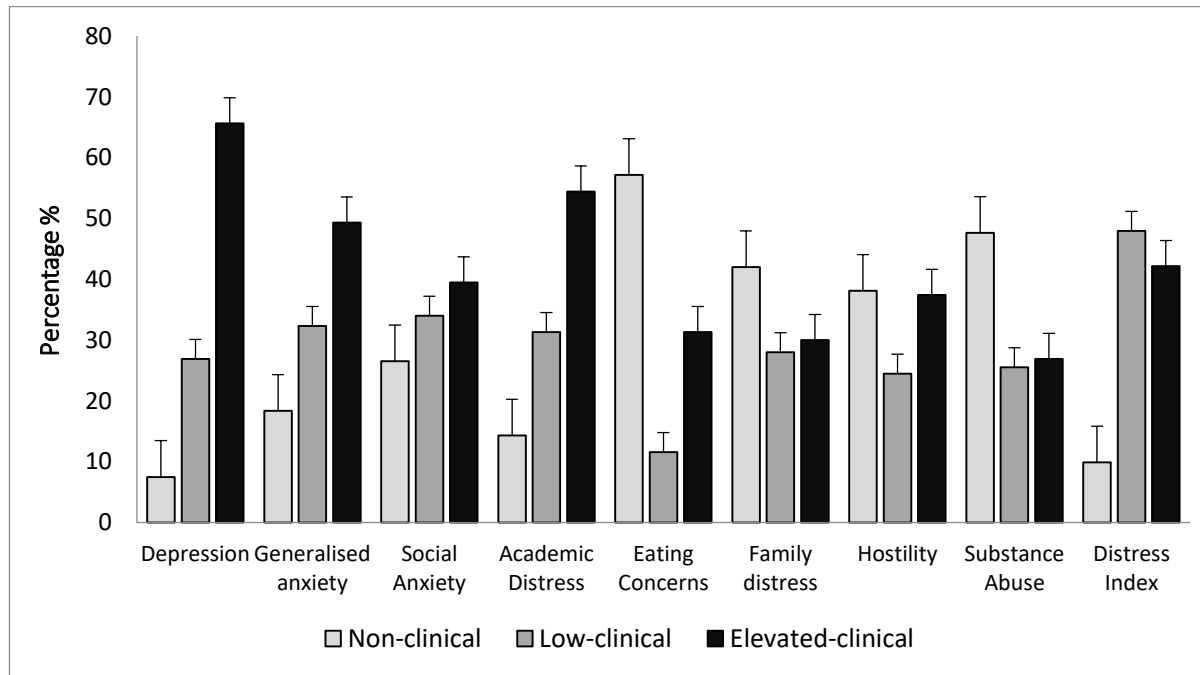
One cluster comprises academic distress, depression, GAD and social anxiety, while a second cluster comprises eating concerns, family distress, hostility and substance abuse. In a direct comparison between the Distress Index and CORE-10, students scored significantly higher on the Distress Index; $t(293) = 51.944$, $p < 0.001$.

Table 4.3. CORE-10 and CCAPS-62 subscale means and descriptive analysis on UK and USA students at the initial assessment for counselling

		Means (Rank)		SDs			
	Items	UK	USA[1]	UK	USA[1]	Min	Max
	n	294	59,606	294	59,606		
CCAPS-62							
Depression	13	2.02 (4)	1.56 (5)	0.75	0.94	0	3.85
GAD	9	1.93 (5)	1.63 (3)	0.82	0.94	0	3.89
Social Anxiety	7	2.08 (2)	1.84 (1)	0.88	0.96	0	3.86
Academic Distress	5	2.53 (1)	1.83 (2)	0.93	1.02	0	4.00
Eating Concerns	9	1.17 (8)	0.98 (8)	0.95	0.87	0	4.00
Family Distress	6	1.31 (6)	1.28 (6)	0.97	0.96	0	3.89
Hostility	7	1.18 (7)	0.99 (7)	0.83	0.86	0	3.86
Substance Abuse	6	1.08 (9)	0.74 (9)	1.02	0.85	0	3.83
Distress Index	19	2.06 (3)	1.57 (4)	0.68	0.84	0	3.79
CORE-10							
Total	10	1.93	-	0.65	-	0	3.50

[1]normative sample from CCAPS clinical manual version 2015

Figure 4.3. Symptom clusters of UK students on CORE-10 total and CCAPS-62 subscales measured at the initial assessment for counselling
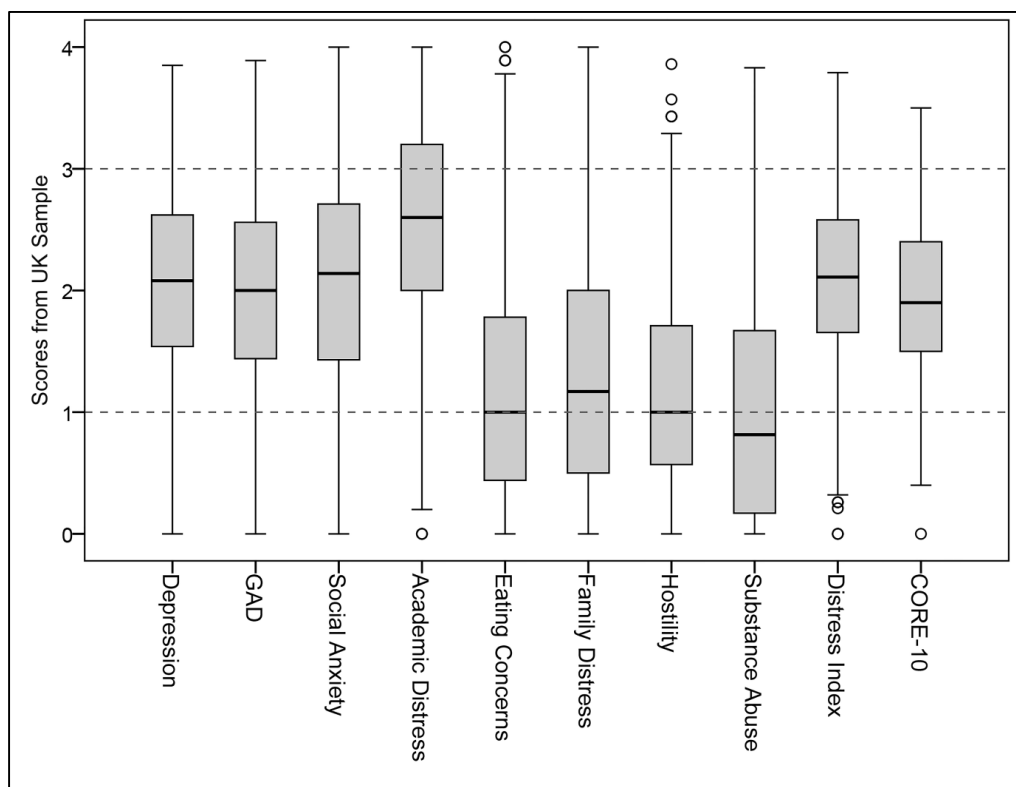
4.10 Discussion

The current study is the first examination of the acceptability and feasibility of implementing the CCAPS-62 in a UK clinical student population as well as determining its structure and reliability. For this purpose, this study sought to benchmark the CCAPS-62 against a brief standard measure of psychological distress using the CORE-10 and to make initial comparisons with US normative data. A range of indices of acceptability and feasibility were applied and all of which indicated the overall acceptability and feasibility of adopting the CCAPS-62 in a student population. No student refused to complete the CCAPS when it was presented as standard procedure. Missing items were virtually negligible, and there was no evidence of fatigue effects.

Two of the subscales showed a ceiling effect, but the total number of students scoring 4.00 on any subscale was 16, of which 14 of these obtained the maximum score on academic distress. Given that this full version of the CCAPS is recommended for use as an initial assessment tool, the inclusion of a scale tapping academic distress as a unique experience of students is sufficient to outweigh this low rate of maximum scoring. Differences were anticipated in the factor structure of CCAPS in the UK

compared the US because of the known differences in symptom expression across different countries (Rückert, 2015). However, strikingly, the factor structure mimicked the intended subscales and displayed a robust factor solution across two methods. This suggests that the CCAPS-62 subscales established with US samples are appropriate for use in the UK without alteration.

This finding was consolidated when individual subscales were explored and were shown to be highly reliable. Although alpha levels for all subscales in the UK sample, except for substance abuse, were lower than in the US data, all values were above 0.8, a value also obtained for the CORE-10. Given that the number of items in the CCAPS scales range from 5 to 19, the relatively tight range of alpha values is reassuring. This finding provides confidence in the discrete value to practitioners of each of the eight subscales. In terms of comparisons between the CCAPS-62 and CORE-10, there might appear to be a clear choice between capturing a broad assessment of presenting issues (CCAPS) and a brief overall distress score (CORE-10). However, the Distress Index (DI) appeared to largely mimic the CORE-10 as evidenced by the high correlation but more importantly by the high rate of agreement (92.8%) in determining caseness.

Within this 92.8% of cases, 86.3% of the sample reached clinical threshold on CCAPS DI compared to only 73% of a US student sample (Duszak, 2014). Hence, CCAPS comprises reliable subscales that do not evidence any fatigue effects due to its length but can also yield an overall index of psychological distress that is >90% accurate in determining caseness or not when compared with a UK-derived outcome measure. In terms of the eight subscales and their scores, two clear clusters appeared with higher scores (severity) being achieved on academic distress, depression, generalised anxiety, and social anxiety, while lower scores were obtained on eating concerns, family distress, hostility, and substance abuse. These two groupings appear intuitively meaningful in that the former comprises three prevalent conditions reported in primary care settings with the associated impact on academic performance (or vice versa).

As such, they are consistent with findings reported by Connell, Barkham, and Mellor-Clark (2008) using the full version of the CORE-OM (Evans et al., 2002) and the Therapy Assessment Form (Mellor-Clark & Barkham, 2006) in which the highest presenting problems in a sample of students were anxiety, interpersonal problems, depression, self-esteem, and academic problems. The latter grouping reflects more complex presenting conditions that might be viewed as requiring secondary or more specialist interventions. Comparisons were made between UK and US symptom severity

to elucidate recent trends in UK mental ill health. Strikingly, UK students were elevated on all CCAPS subscales compared to US students (Martin, Hess, Ain, Nelson, & Locke, 2012; McAleavey et al., 2012). This was most noticeable for the first grouping of presenting problems (i.e., depression, academic distress, GAD and social anxiety).

Given that the overall indices of psychological distress – the DI and CORE-10 – have a high level of agreement in terms of caseness or not, then it is reasonable to take the UK scores as valid responses to the CCAPS. Hence it would appear that in the present sample, UK students scored consistently higher when compared against the US norms. However, although symptoms were more severe in UK students than US, this was less noticeable for eating concerns, family distress, hostility, and substance abuse. These differences may suggest that UK students approach services at higher severity levels than US students and reflect differences in help-seeking behaviour between the two countries.

4.11 Chapter summary

The differences outlined in the current Chapter reflect the severity of academic distress experienced by help-seeking students in the UK. In many ways students present as a unique population in terms of their age, transient living style, limited tenure (i.e., usually 3 years), and financial constraints. Hence, it can be argued that students require highly developed but flexible in-house services that blend a knowledge of university demands but also offer an array of alternative sources of support to reach out to students. Taken together, the initial findings regarding the CCAPS-62 suggest it to be a valid measure of student psychological distress for use with UK students. In addition, findings also yield information about probable elevated distress levels for UK students compared with US students and show the highest relative subscale score to relate to academic distress. The ability of the measure to highlight specific student concerns strongly supports its use in this population.

Chapter 5: Measuring distress in non-help-seeking students: identifying student symptom profiles and barriers to help-seeking with the Counselling Centre Assessment of Psychological Symptoms (CCAPS-34)

5.1 Chapter overview

Thus far, this doctoral work has identified that most help-seeking university students receive high-intensity mental health support, and that compared to the US, UK students approach counselling at a higher symptom severity. For these reasons, earlier in the thesis it was proposed that students resist seeking help until their mental health concerns are already affecting their ability to cope, both academically and concerning their daily functioning. Regarding the use of clinical measures in this context, Chapters 1-3 identified inconsistent use of clinical outcome measures and Chapter 4 validated a student-specific measure for use in the UK.

More broadly, with the overall aim of charactering student counselling services, this thesis has presented findings from scientific literature, service data, in-house therapists, heads of service, and service users. However, the symptom profile of the general student population has been neglected despite representing a majority of the student body. Charactering the mental health needs of the general student population will identify potential vulnerabilities and barriers for help-seeking behaviour, which can, in turn, inform campus initiatives for preventative interventions. Chapter 5 aimed to fill this gap by identifying the symptom profile of the general student population, defined as "non-help-seeking students" and representing students whom have not approached the counselling service. For the purpose of this thesis, "non-help-seeking students" represent individuals who have not approached the counselling service, including individuals who self-identify as not needing mental health support as well as individuals who have avoided seeking help for a mental health concern. For these reasons, Chapter 5 additionally explores barriers to help-seeking behaviour.

5.2 Introduction

The transition to higher education (HE) marks a time of great change whereby young adults embark on independence and manage new responsibilities. Aside from reaching higher academic standards, university students must adjust to living with unknown peers, usually in an unfamiliar area, and attend lectures holding hundreds of students. In line with this transition, recent trends indicate a shift in the severity and symptom

profile of contemporary students that has overtaken the general population (Brunner, Wallace, Reymann, Sellers, & McCabe, 2014; Ibrahim, Kelly, Adams, & Glazebrook, 2013; Stallman, 2010). Even traditional aspects of the student lifestyle have changed with societal shifts in the UK - with more young adults abstaining from alcohol and more students being in paid employment or commuting to university (Moreau & Leathwood, 2006; Office for National Statistics, 2015; Pokorny, Holley, & Kane, 2017).

With these generational changes alongside the introduction of new policies in HE, the need for campus-based prevention programmes alongside wider investment in student counselling services is substantial. The current study aimed to aid this need by characterising the mental health profile of non-help-seeking students, in comparison to help-seeking students, and to identify barriers to help-seeking. The emerging global trend of student mental health is that students present with higher rates of complex mental health concerns, which are exacerbated by highly pressured academic environments (Prince, 2015; Rückert, 2015). Despite the longstanding observation of increased service demand, research has identified changes in the types of issues students present with that currently centre on academic distress, stress, and anxiety, with higher medication use (Benton, Robertson, Tseng, Newton, & Benton, 2003).

Alarmingly, through comparisons of student cohorts from 1988-2001, Benton et al. (2003) identified a twofold rise in depression and a threefold rise in suicide, across each academic year. These findings not only evidence the climbing severity of student mental health needs, but also the generational shifts in student mental health concerns. Furthermore, given these changes were evidenced across a 13 year span up to 2001, the symptom profile of today's student has likely changed further. Although the rise in student mental ill-health is widely documented, it is not clear whether students are simply more willing to seek help for a mental health concern. Moreover, as policies draw attention to student mental health and widen access for students with existing mental health concerns, it is possible that the rise reflects better reporting.

Within the general population, the acceptance and help-seeking for mental health has steadily risen since 1985 suggesting, that at least in part, societal changes have also increased student help-seeking (Hunt & Eisenberg, 2010). However, societal changes cannot account for barriers from contextual factors such as the emphasis on working with peers despite higher rates of social anxiety, higher financial burden, and higher academic pressures to succeed in a saturated job market (see Hansen, 2006; Walesmann, Gee, & Gentile, 2015). UK studies on student help-seeking behaviour have

already identified a preference for students to seek help from friends, despite holding a positive view of in-house counselling services (Goodwin, Behan, Kelly, McCarthy, & Horgan, 2016). By contrast, research has also proposed that highly socialised environments can protect students from mental ill-health, providing they are satisfied with their social group (Julal, 2013, 2016).

Whilst research studies have demonstrated the benefits of living in a socialised environment, the same studies have found higher rates of depression in students with limited social connections (e.g. Julal, 2016). Arguably, if being part of a social group protects student well-being, and the preference for seeking help is through friends, then individuals who struggle to establish social connections are likely more vulnerable (see Hunt & Eisenberg, 2010). This vulnerability has been hinted by the rise of social anxiety in students which has been further linked to poorer academic attainment, interrupted attendance, and avoidance of academic responsibility (Galbraith & Gregory, 2015; Russell & Shaw, 2009; Salanova, Schaufeli, Martínez, & Bresó, 2010). Critically, numerous physical symptoms of social anxiety can be triggered by factors specific to the academic context including: 1) entering crowded rooms; 2) performing oral examinations; 3) speaking in meetings/groups; and 4) voicing disagreement (see Dell'Osso et al., 2014). With the rise in clinical levels of social anxiety in students, and the documented help-avoidant behaviour in individuals struggling with social anxiety (e.g. Yuen et al., 2013), it is important for university counselling services to better understand and address barriers to help-seeking behaviour.

Aside from the social campus environment, other contextual factors have been associated with mental health concerns in students and their willingness to seek help. For example, students studying arts are more likely to experience depression, anxiety, and suicidal thoughts, than students from other disciplines, whereas students from engineering are least likely to experience these concerns (Lipson, Zhou, Wagner, Beck, & Eisenberg, 2016). Regarding help-seeking behaviour, students from social sciences appear the most likely to seek help and experience lower levels of depression, anxiety, suicidal thought, and self-harm (Lipson et al., 2016). Aside from discipline, higher rates of academic distress have been documented in international students and whilst their distress reduces with counselling, they require more time in counselling and do not improve to the level of home students (Locklard, Hayes, Graceffo, & Locke, 2013). Collectively these studies highlight several vulnerabilities specific to the student

population that could be used to inform preventative strategies and targeted interventions at the faculty level.

The prevalence of student mental ill-health has been steadily climbing throughout several generations and the types of presenting issues are broadening. Despite once being viewed as a privileged population, the mental health profile of the contemporary student is riddled with stress, academic distress, and anxiety. With a shift in the types and severity of student mental health needs, university counselling services are continually challenged to reach wider and cater for different preferences. However, services can only access individuals who are willing and able to seek help and evidence suggests that help-seeking continues to be an issue within the student population. One growing view is that it is the joint responsibility of the counselling service and the wider educational institution to support the mental health needs of students; to ensure they reach their academic potential and contribute to society beyond university (e.g. Thorley, 2017). More critically, the implementation of campus based initiatives, with preventative strategies, and wider investment in alternative routes to support, would extend existing counselling services and better manage demand. However, the mental health needs, preferences, and help-seeking willingness of the contemporary student are out dated and understudied in the UK. The current study aimed to address these issues by charactering the symptom profile and barriers to help-seeking in a geographically diverse sample of UK university students.

5.3 Method

5.3.1 Design and setting

This study used a cross-sectional survey design in five UK Universities in March 2016. The universities were selected based on the following criteria: 1) the CCAPS measure was being used in the university counselling service (i.e. to permit comparison to non-help-seeking students); and 2) universities were from different geographical regions, representing a range of small and large, city/town based and rural campuses. These criteria broadened the diversity of potential students and details of the universities are as follows: 1) large northern city based university (UN1; ~25,500 students); 2) large eastern city university (UN2; ~20,000 students); 3) small western city university (UN3; ~11,000 students); 4) small town-rural university (UN4; ~10,500 students); and 5) medium southern city university (UN5; ~14,000 students).

5.4 Measures

5.4.1 Counseling Center Assessment of Psychological Symptoms (CCAPS-34)

The CCAPS-34 (Locke et al., 2012) is a shortened version of the CCAPS-62 (Locke et al., 2011), which is used interchangeably with the latter version in student counselling services to collect sessional data. Usually, the initial assessment uses the full CCAPS-62 and then the CCAPS-34 is used at each session. The shortened instrument comprises the same scales as the CCAPS-62 except from family distress, and with fewer items in each scale including: 1) depression (6 items); 2) generalised anxiety (6 items); 3) social anxiety (5 items); 4) academic distress (4 items); 5) eating concerns (3 items); 6) hostility (6 items); and 7) alcohol use[7] (4 items). Like the full version, CCAPS-34 includes an overall Distress Index (DI), which is derived from the same 19 items across both versions.

Similarly, each subscale can be used to determine the clinical caseness, termed *low clinical* (LC) and *elevated clinical* (EC), which can be used to infer clinical risk on discrete symptoms (see previous CCAPS-62, Measure section). The CCAPS-34 is a psychometrically robust measure that has been validated against the CCAPS-62 and correlates highly with longer measures including: Alcohol Use Disorders Identification Test ($r = 0.78$; AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993); Beck Anxiety Inventory and Beck Depression Inventory ($r = 0.69$; ($r = 0.70$; BAI/BDI; Beck, Epstein, Brown, & Steer, 1988); Eating Attitudes Test ($r = 0.52$; EAT-26; Mintz, & O'Halloran, 2000); Social Phobia Diagnostic Questionnaire ($r = 0.76$; SPDQ; Newman, Kachin, Zuellig, Constantino, & Cashman-McGrath, 2003); and the Student Adaptation to College Questionnaire ($r = 0.68$; SACQ; Baker & Siryk, 1984) – see Locke et al. (2012).

5.4.2 Survey questions

The instructions and questions from the CCAPS-34 were created as an online survey (https://qualtrics.com/) that allows questions to be completed on a mobile device and computer. The survey also captured the following information: 1) demographics (e.g. age, gender, home/international student status); 2) institution (e.g. institution name, degree faculty, level of study, mode of study); 3) mental health concerns (e.g. diagnosed mental health condition, type of mental health concern, if at all); and 4) help-seeking intentions (e.g. previously/currently/due to receive professional help for a mental health concern, whether they have avoided seeking help for a mental health concern and the

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[7] Scale previously termed Substance Abuse in CCAPS-62 version which includes items on substances aside from alcohol such as "*I use drugs more than I should*" (see previous measure section)

reasons for avoiding help). The answers were in multiple choice format for all questions except for questions requiring elaboration including students' mental health concerns, diagnosed mental health conditions, and reasons for avoiding seeking help.

5.4.3 Survey distribution

An anonymous weblink to the survey was emailed to the student volunteer lists for each participating university. To increase the potential response rate, e-newsletters were circulated to the student volunteer lists to raise awareness the week before the survey was launched. The survey was launched on University Mental Health Day in March 2016 and remained open for 7-days.

5.4.4 Ethics

The study received ethical approval from the University of Sheffield Research Ethics Committee as a collaborative project naming the other participating universities (Ref: 1144 see Appendix E1-2). Following ethical approval by the University of Sheffield REC, approval letters were shared with the Research Ethics Committees at the collaborating Universities.

5.5 Participants

Participants were 2,814 students registered at one of the five UK universities with a mean age of 23.73 years (SD = 7.07; min = 18, max = 69). At the university level, 750 students (26.7 %) studied at UN1, 628 (22.3 %) studied at UN2, 505 (17.9 %) studied at UN4, 488 (17.3 %) studied at UN3, and 411 (14.6 %) studied at UN5[8]. Students were predominantly studying at their home/birth country (n = 1928, 68.5 %), compared to international students (n = 62, 2.2 %), or an alternative student status such as an exchange year (n = 631, 22.4 %)[9].

Students were also predominantly undergraduates (n = 2014, 71.6 %), with 20.3 % (n = 570) undertaking postgraduate study or research (n = 230, 8.2 %). At the faculty level, students studied degree topics from science (n = 927, 33%), arts and humanities (n = 753, 27%), social science (n = 678, 24%), medicine/dentistry/nursing (n = 313, 11%), or engineering (n = 143, 5%). When asked to describe their gender, most students identified as female (n = 1608, 57%), followed by male (n = 579, 21%), transgender (n =

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[8] The remaining 32 (1.1 %) attended universities outside the 5 targeted universities
[9] The remaining 193 (6.9%) did not report on student status

17, 0.6%), and non-binary (n = 12, 0.4%). A total of 29 (1%) students did not want to report on gender and the remaining 20% (n = 569) did not provide an answer.

5.6 Analytic strategy

Quantitative analysis was performed in SPSS statistics package (version 21) and qualitative analysis was performed in NVivo (version 11). The mental health profile of non-help-seeking students was characterised with descriptive statistics on CCAPS-34 subscale scores to identify patterns of symptom severity. A series of mixed factorial ANOVAs with post-hoc simple effect analyses were used to explore differences in symptom profiles at the university level, faculty level (e.g. science), and self-identified help-seeking level (e.g. avoided seeking help for a mental health concern). Following the identification of differences within the non-help-seeking student profile, comparisons were made with help-seeking students within the UK (Chapter 4) and from US published data, to elucidate the clinical severity of each student group. To allow direct comparison between UK help-seeking and non-help-seeking students, items from the CCAPS-34 were extracted from the CCAPS-62 (collected at intake to university counselling) and CCAPS-34 subscales were calculated for the help-seeking sample.

      Independent t-tests were further used to identify significant differences between help-seeking and non-help-seeking student symptoms. The final extension of characterising the mental health profile of help-seeking and non-help seeking students involved comparisons between the percentages of students that met clinical membership, on the CCAPS-34. For this purpose, the clinical thresholds[10] of each CCAPS-34 subscale were used to determine the percentages of students that met non-clinical, low-clinical, and elevated clinical criteria. Based on these criteria, the combined low and elevated clinical percentages were compared between help-seeking and non-help-seeking students to determine which subscales students enter clinical membership. Comparisons were then made between the percentages of non-help-seeking and help-seeking students that met elevated-clinical criteria to identify high risk symptoms within each student group. Lastly, difficulties experienced by the self-identified help-avoidant group were identified with thematic analysis on comments provided by students who reported avoiding help for a mental health concern.

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[10] See CCAPS 2015 manual (page 21)

5.7 Acceptability and feasibility of CCAPS-34 as an online survey

5.7.1 Completion of measure and average time

On average, students took 5 minutes and 19 seconds to complete the survey, but this duration was shorter for individuals who only answered multiple choice questions, and longer for individuals who left comments or completed the survey in multiple sittings (min = 00:00:30, max = 00:57:00, SD = 00:05:10). Most students had not previously received support for a mental health concern (No = 1887, 67%; Unsure = 81, 2.88%; Yes = 653, 23.21%; missing = 193, 6.86%), and were not receiving mental health support during the time of data collection (No = 1833, 65.14%; Unsure = 37, 1.31%; Yes = 238[11], 8.46%; missing = 706, 25.09%). When asked whether students felt they needed support for a mental health concern yet avoided seeking help, more students disagreed than agreed (No = 1089, 38.7%; Unsure = 104, 3.7%; Yes = 768, 27.29%; missing = 853, 30.31%).

5.7.2 Missing items

Excluding the demographic and help-seeking questions, the overall rate of missing items on the CCAPS-34 was 0.0049% (471 missing items / 95,676 data points[12]). Missing items were generally distributed across all 34 items ranging between 9-18 missing items per question. However, the highest rate of missing items was obtained for two items on the eating concerns subscale "*I eat too much*" (item 13) and "*I think more about food than I should*" (item 6), as well as a generalised anxiety item "*My thoughts are racing*" (item 17) and a hostility item "*I have thoughts of hurting others*" (item 34).

5.7.3 Percentage of students scoring maximum scores on each scale

Potential ceiling effects were explored by calculating the percentage of students that obtained a maximum score (4 = *extremely like me*) on any scale. The highest percentage of maximum scores[13] was met for eating concerns (n = 149, 5.35%), followed by depression (n = 52, 1.88%), alcohol use (n = 42, 1.51%), GAD (n = 32, 1.15%), hostility (n

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[11] Analysis was performed with the help-seeking students removed as well as within the sample and minimal differences were observed (see Appendix E5). Help-seeking individuals were included in the final analysis.

[12] CCAPS-34 items for 2,814 individuals

[13] Based on depression sample size of 2784 (30 missing); GAD = 2782 (32 missing); academic distress = 2797 (17 missing); eating concerns = 2786 (28 missing); hostility = 2779 (35 missing); and alcohol use = 2790 (24 missing).

= 7, 0.25%), and academic distress (n = 4, 0.14%). There were no maximum scores recorded for social anxiety or for the overall distress index.

5.7.4 Percentage of students scoring minimum scores on each scale

Floor effects were additionally explored by calculating the percentage of students that obtained a minimum score (0 = *not at all like me*) on any scale. Minimum scores were met on all subscales in the following descending order: alcohol use (n = 924, 33.11%), eating concerns (n = 580, 20.82%), hostility (n = 524, 18.86%), depression (n = 195, 7%), generalised anxiety (n = 65, 2.34%), distress (n = 6, 0.22%), social anxiety (n = 4, 0.14%), and academic distress (n = 1, 0.04%).

5.8 Symptom profiles of UK university students

5.8.1 Profile of non-help-seeking UK university students

Non-help-seeking students obtained the highest scores on social anxiety (Mean = 2.18, SD = 0.74, min = 0, max = 3.80), followed by academic distress (Mean = 1.98, SD = 0.77, min = 0, max = 4), generalised anxiety (Mean = 1.84, SD = 1.01, min = 0, max = 4), distress (Mean = 1.71, SD = 0.86, min = 0, max = 3.95), depression (Mean = 1.65, SD = 1.09, min = 0, max = 4), alcohol use (Mean = 0.98, SD = 1.08, min = 0, max = 4), and hostility (Mean = 0.85, SD = 0.80, min = 0, max = 4). These levels are also presented in the box and whisker plot in Figure 5.1, which demonstrates a clear elevation of social anxiety and academic distress with reduced hostility and alcohol use. Inspection of Figure 5.1 also shows a large variation in eating concerns suggesting that students responded strongly, either high or low, on items within this subscale.

A 5 x 8 mixed factorial ANOVA with one between factor for university (UN1, UN2, UN3, UN4, UN5) and one within factor for symptom clusters (Depression, generalised anxiety, social anxiety, academic distress, eating concerns, hostility, alcohol use, and distress) was conducted to explore potential differences across universities and symptoms. The main effect of university was not significant ($F(4, 1388) = 1.80$, $p = 0.126$, $n^2 = 0.01$) suggesting that the level of distress experienced by students is similar across universities.

Figure 5.1. Symptom clusters of UK non-help-seeking students on CCAPS-34 subscales
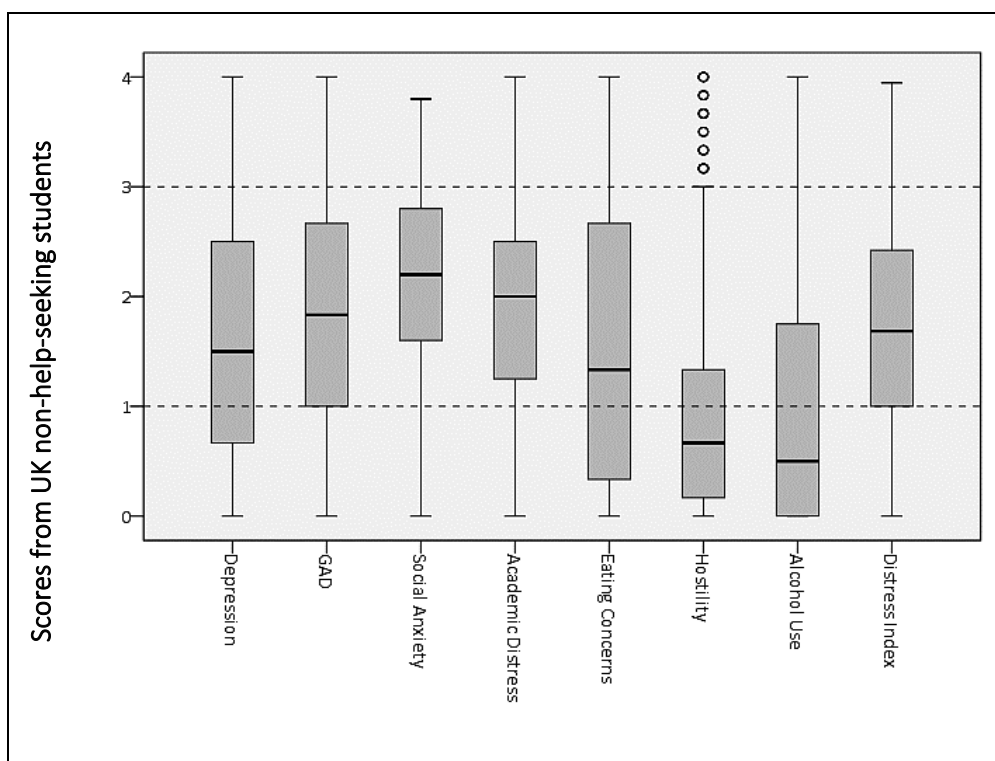
The main effect of symptom clusters was significant (F(7, 1495.87[14]) = 637.98, p < 0.001, n^2 = 0.65) and inspection of the marginal means in Table 5.1 suggests that across the universities, students were the most distressed on social anxiety, followed by academic distress, generalised anxiety, distress, depression, eating concerns, alcohol use, and the least for hostility. Bonferroni corrected post-hoc simple effect analyses revealed significant differences at the p < .001 level between every symptom cluster. The interaction (University*Symptom) was not significant (F(28, 9716) = 1.31, p = 0.127, n^2 = 0.11). With both the main effect of university and the interaction found to be not significant, universities have been combined to permit comparison at the faculty level. A 5 x 8 mixed factorial ANOVA with one between factor for faculty (arts, engineering, medicine, science, social) and one within factor symptom clusters (depression, generalised anxiety, social anxiety, academic distress, eating concerns, hostility, alcohol use, and distress) was conducted to explore potential differences across faculties and symptoms.

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[14] Mauchly's test of sphericity was significant (W = 0.012, p < 0.001) therefore the Greenhouse-Geiser correction has been used

The main effect of symptom clusters was significant ($F_{(7, 506.51}$[15]$)$ = 177.88, $p <$ 0.001, n^2 = 0.60) and inspection of the marginal means in Table 5.2 shows that students scored the highest on social anxiety followed by academic distress, generalised anxiety, distress, eating concerns, depression, alcohol use and least for hostility. The main effect of faculty was also significant ($F_{(4, 468)}$ = 7.09, $p < 0.001$, n^2 = 0.06) and inspection of the marginal means in Table 5.2 shows that students from social sciences were the most distressed followed by engineering, medicine and science. Finally, the interaction (faculty*symptom cluster) was significant ($F_{(28,1751.28}$[16]$)$ = 1.86, $p = 0.004$, n^2 = 0.02) suggesting a difference between faculties at the symptom level. Inspection of Table 5.2 shows that across the faculties, social sciences students scored the highest on social anxiety, academic distress, generalised anxiety, distress, depression and alcohol use. Students from arts scored the highest on social anxiety, distress, and depression. Students from sciences scored the highest on social anxiety and hostility. Students from medicine were the most distressed for eating concerns and engineering students were the least distressed overall compared to all other faculties.

A series of Bonferroni corrected post-hoc simple effect analyses revealed that students from social sciences were significantly more distressed than engineering students for generalised anxiety ($t_{(812)}$ = 3.74, $p < 0.001$) and for social anxiety when compared to students from medicine ($t_{(979)}$ = 3.81, $p < 0.001$). Arts students were significantly more distressed on generalised anxiety than engineering students ($t_{(879)}$ = 3.67, $p < 0.001$) and for social anxiety compared to students from medicine ($t_{(1050)}$ = 3.71, $p < 0.001$). The remaining post-hoc comparisons were not significant (see Appendix E3 for Table of p values). The final comparison of CCAPS-34 subscale scores was made for students allocated into three groups: those who had avoided seeking help for a mental health concern, those who had previously received help, and those who were currently receiving help. A 3 x 8 mixed factorial ANOVA with one between factor of help-seeking (avoided, previous, current) and one within factor of symptom clusters (Depression, generalised anxiety, social anxiety, academic distress, eating concerns, hostility, alcohol use, and distress) was conducted to explore potential differences across help-seeking and symptoms[17].

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[15] Mauchly's test of sphericity was significant (W = 0.014, p < 0.001) therefore the Greenhouse-Geiser correction has been used

[16] Mauchly's test of sphericity was significant (W < 0.001, p < 0.001) therefore the Greenhouse-Geiser correction has been used

[17] Analysed on data from students who answered 'yes'

Table 5.1. Means and SDs of CCAPS-34 subscales of non-help-seeking students from five UK universities

	UN1		UN2		UN3		UN4		UN5		Total sample	
N	758		628		492		521		415		2,814	
	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	Marginal Mean	SE
Depression	1.73 (5)	1.10	1.59 (5)	1.11	1.64 (5)	1.06	1.56 (5)	1.10	**1.74 (5)**	1.08	1.51 (5)	0.03
GAD	**1.94 (3)**	1.00	1.78 (3)	1.05	1.79 (3)	0.98	1.79 (3)	1.00	1.83 (3)	0.96	1.73 (3)	0.03
Social anxiety	2.22 (1)	0.74	2.09 (1)	0.73	2.20 (1)	0.74	2.13 (1)	0.78	**2.28 (1)**	0.67	2.13 (1)	0.03
Academic distress	2.01 (2)	0.79	1.93 (2)	0.79	1.97(2)	0.73	1.95 (2)	0.77	**2.02 (2)**	0.77	1.92 (2)	0.02
Eating concerns	**1.63 (6)**	1.30	1.55 (6)	1.25	1.52 (6)	1.26	1.48 (6)	1.30	1.53 (6)	1.19	1.50 (6)	0.03
Hostility	0.84 (8)	0.77	0.84 (8)	0.81	**0.91 (8)**	0.82	0.79 (8)	0.82	0.89 (8)	0.78	0.81 (8)	0.02
Alcohol use	0.99 (7)	1.11	0.89 (7)	1.05	0.93 (7)	1.06	**1.10 (7)**	1.11	1.01 (7)	1.06	0.94 (7)	0.02
Distress index	**1.79 (4)**	0.85	1.65 (4)	0.89	1.71 (4)	0.86	1.64 (4)	0.87	1.76 (4)	0.83	1.61 (4)	0.02
Marginal Mean	*1.51*		*1.47*		*1.53*		*1.51*		*1.60*			
SE	*0.03*		*0.04*		*0.04*		*0.04*		*0.03*			

Bold represents the highest mean across the faculties

The main effect of help-seeking was significant ($F_{(2,400)} = 6.05$, $p = 0.003$, $n^2 = 0.03$) and inspection of the marginal means in Table 5.3 shows that students who were currently receiving help had the highest scores overall, followed by students who had avoided help and students who had previously received help. The main effect of symptom clusters was also significant ($F_{(7,1400)} = 255.13$, $p < 0.001$, $n^2 = 0.56$) and inspection of the marginal means shows that students scored the highest on social anxiety, jointly followed by academic distress and generalised anxiety. Finally, the interaction (help-seeking*symptom cluster) was significant ($F_{(14,2800)} = 2.02$, $p = 0.013$, $n^2 = 0.01$) and a series of Bonferroni corrected post-hoc simple effect analyses were used to explore where the differences across help-seeking status and symptom clusters occurred.

Bonferroni corrected post-hoc simple effect analyses revealed that students who reported avoiding help for a mental health concern were significantly more distressed on depression, generalised anxiety, social anxiety, academic distress, and overall distress compared to students currently receiving counselling ($t_{(719)} = 2.92$, $p = 0.004$; $t_{(715)} = 3.37$, $p = 0.001$; $t_{(721)} = 2.92$, $p = 0.004$; $t_{(726)} = 2.60$, $p = 0.010$; $t_{(706)} = 3.38$, $p = 0.001$, respectively). Students who had previously received professional help for a mental health concern were also significantly more distressed on generalised anxiety, academic distress, and overall distress compared to students currently receiving counselling ($t_{(875)} = 2.45$, $p = 0.015$; $t_{(879)} = 2.74$, $p = 0.006$; $t_{(858)} = 2.44$, $p = 0.015$, respectively). The remaining simple effect analyses were not significant (see Appendix E4 for table of p values).

5.8.2 Comparisons between help-seeking and non-help-seeking students

The means and ranks together with the SDs and range for the CCAPS-34 subscales from help-seeking and non-help-seeking students are presented in Table 5.4. Within the UK samples, help-seeking students scored significantly higher than non-help-seeking students on academic distress, depression, GAD, hostility, and overall distress ($t_{(333.9)} = 15.75$, $p < 0.001$; $t_{(398.1)} = 5.73$, $p < .001$; $t_{(367.4)} = 5.00$, $p < 0.001$; $t_{(3067)} = 0.12$, $p = 0.001$; $t_{(377.7)} = 7.65$, $p < 0.001$, respectively)[18]. By contrast, non-help-seeking students scored significantly higher on eating concerns and social anxiety ($t_{(362.4)} = 6.09$, $p < 0.001$; $t_{(323.4)} = 2.10$, $p = 0.047$).

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[18] The adjusted df has been reported in cases where equal variances cannot be assumed as indicated by a significant Levene's test result

Table 5.2. Means together with their ranks and SDs of CCAPS-34 subscales of UK non-help-seeking students across degree faculty

	Arts		Engineering		Medicine		Science		Social Science		Total sample	
N	753		143		313		927		678		2,814	
	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	Marginal Mean	SE
Depression	**1.69 (5)**	1.18	1.40 (5)	1.01	1.49 (6)	1.09	1.68 (5)	1.08	**1.69 (5)**	1.10	1.50 (6)	0.04
GAD	1.90 (3)*	1.02	1.56 (3)*	0.98	1.70 (3)	1.03	1.82 (3)	0.98	**1.91 (3)***	1.01	1.72 (3)	0.04
Social anxiety	**2.21 (1)***	0.76	2.03 (1)	0.69	2.02 (1)*	0.73	**2.21 (1)**	0.71	**2.21 (1)***	0.75	**2.10 (1)**	0.03
Academic distress	2.00 (2)	0.78	1.90 (2)	0.71	1.89 (2)	0.77	1.98 (2)	0.76	**2.01 (2)**	0.80	1.92 (2)	0.03
Eating concerns	1.51 (6)	1.30	1.29 (6)	1.17	**1.63 (4)**	1.26	1.57 (6)	1.26	1.57 (6)	1.25	1.54 (5)	0.06
Hostility	0.85 (8)	0.80	0.80 (8)	0.79	0.80 (8)	0.85	**0.87 (8)**	0.80	0.85 (8)	0.80	0.86 (8)	0.03
Alcohol use	0.94 (7)	1.05	0.93 (7)	1.01	0.87 (7)	1.02	0.99 (7)	1.09	**1.07 (7)**	1.13	0.93 (7)	0.05
Distress index	**1.75 (4)**	0.87	1.49 (4)	0.83	1.57 (5)	0.89	1.72 (4)	0.85	**1.75 (4)**	0.86	1.60 (4)	0.03
Marginal Mean	*1.59*	-	*1.43*	-	*1.42*	-	*1.41*	-	*1.77*	-	-	-
SE	*0.06*	-	*0.06*	-	*0.06*	-	*0.06*	-	*0.06*	-	-	-

Bold represents the highest mean across the faculties

*Significant post-hoc simple effect analyses

Help-seeking students also scored higher than non-help-seeking students for alcohol use, but this was not significant (t (3082) = 0.09, p = 0.226). Compared to the US, both UK samples scored higher on all CCAPS-34 subscales and of the two UK samples, non-help-seeking students were closer to US help-seeking. For example, the scores on the symptom clusters of UK non-help-seeking students relative to US scores for help-seeking scores when represented as ratios ranged from 1.04:1 (hostility) to 1.22:1 (social anxiety). The equivalent range of this statistic for the scores of UK help-seeking students relative to US help-seeking students was 1.37:1 (academic distress) to 1.71:1 (alcohol use)[19].

5.8.3 Clinical cut-offs for help-seeking and non-help-seeking UK students

Comparisons were made between the percentage of help-seeking and non-help-seeking students that met clinical criteria on the CCAPS-34 subscales.   Inspection of Figure 5.2 illustrates that, except for eating concerns in help-seeking students, between 50% and 85% of students met clinical criteria on all other CCAPS-34 subscales. Compared to non-help-seeking, more help-seeking students met clinical criteria on academic distress, depression, GAD, hostility, alcohol use, and distress. By contrast, more non-help-seeking students met clinical criteria on eating concerns and social anxiety. This pattern holds for the elevated-clinical membership, with a substantially higher percentage of non-help-seeking students meeting elevated-clinical criteria on eating concerns compared to help-seeking. Of note is the substantial growth in help-seeking students that met elevated-clinical criteria for academic distress compared to non-help-seeking students.

5.9 Help-seeking themes

Of the 2,814 students that completed the survey, 878 students (31%) provided reasons for not seeking help from their university counselling service. A total of 1011 comments were provided from all five participating universities[20]. Thematic analysis identified 6 core themes, 19 sub-themes, 135 codes, and 2,068 text references.

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[19] Ratios calculated as the lowest UK non-help-seeking score divided by the US help-seeking equivalent score (0.85/0.82); the highest UK non-help-seeking score divided by the US help-seeking equivalent score (2.18/1.79). This was repeated for the lowest and highest scores of the UK help-seeking scores compared to US (lowest = 1.08/0.63; highest = 2.53/1.85).

[20] UN3 = 141 (16%); UN2 = 175 (20%); UN4 = 186 (21%); UN1 = 236 (27%); UN5 = 132 (15%); Other = 6 (1%).

Table 5.3. Means and SDs of CCAPS-34 subscales of UK non-help-seeking students that self-reported avoiding help, having previously received help, and currently receiving help for a mental health concern[21]

	Avoided help		Previous help		Current help		Total sample	
N	768		653		238		1659	
	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	*Marginal Mean*	*SE*
Depression	2.04 (4)	1.05	2.05 (4)	1.09	**2.22 (4)**	0.99	*1.99 (5)*	*0.05*
GAD	2.15 (3)	0.96	2.19 (2)	0.99	**2.37 (2)**	0.93	*2.16 (2)*	*0.04*
Social anxiety	2.33 (1)	0.71	2.36 (1)	0.70	**2.45 (1)**	0.69	*2.30 (1)*	*0.03*
Academic distress	2.18 (2)	0.72	2.17 (3)	0.76	**2.32 (3)**	0.73	*2.16 (2)*	*0.03*
Eating concerns	1.66 (6)	1.29	**1.68 (6)**	1.29	1.67 (6)	1.33	*1.56 (6)*	*0.06*
Hostility	1.00 (8)	0.87	0.97 (8)	0.80	**1.03 (7)**	0.82	*1.01 (7)*	*0.03*
Alcohol use	**1.13 (7)**	1.19	1.00 (7)	1.10	1.02 (8)	1.09	*0.98 (8)*	*0.05*
Distress index	2.03 (5)	0.80	2.05 (4)	0.83	**2.20 (5)**	0.74	*2.01 (4)*	*0.04*
Marginal mean	*1.75*	-	*1.69*	-	***1.88***	-	-	-
SE	*0.04*	-	*0.05*	-	*0.04*	-	-	-

Bold indicates highest score across the help-seeking groups

Of the 6 core themes, 4 contributed to student help-seeking behaviour including: 1) help-seeker willingness; 2) barriers to accessing support; 3) alternative support; and 4) stigma. The 2 remaining themes represent presenting issues and outcomes. A summary of themes, sub-themes, codes, and text references are displayed in Tables 5.5 and 5.6.

5.9.1 Help-seeker willingness

Table 5.5 shows that help-seeker willingness was the main factor raised in students' comments with the largest contribution from feeling that their mental health concern was not serious enough. This perception was often followed by descriptions of debilitating experiences which affected the ability to function such as *"I felt very depressed and slightly suicidal but wasn't sure if it was serious enough to seek help"* or *"sometimes my anxiety increases and affects my studies but by the time I feel well enough to seek help it's not that serious"*.

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[21]Only students who answered 'yes' have been included in the analysis. A total of 762 students answered 'no' (avoided n = 12; previous n = 197; current n = 184); and 393 students answered 'unsure' (avoided n = 134; previous n = 429; current n = 199).

Table 5.4. Comparison of CCAPS-34 subscale means and SDs for non-help-seeking and help-seeking university students in the UK and US

	UK						USA	
	Non-help-seeking (CCAPS-34)		Help-seeking (CCAPS-34)		Help-seeking (CCAPS-62)		Help seeking (CCAPS-62)	
N	2814		294		294		233,615	
	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD	Mean (rank)	SD
Depression	1.65 (5)	1.09	1.96 (5)	0.84	2.02 (4)	0.8	1.42 (5)	1.03
GAD	1.84 (3)	1.01	2.11 (2)	0.88	1.93 (5)	0.8	1.73 (3)	1.01
Social anxiety	2.18 (1)	0.74	2.06 (3)	0.99	2.08 (2)	0.9	1.79 (2)	1.01
Academic distress	1.98 (2)	0.77	2.69 (1)	0.95	2.53 (1)	0.9	1.85 (1)	1.11
Eating concerns	1.55 (6)	1.27	1.08 (6)	1.20	1.17 (7)	1.0	0.91 (6)	1.11
Hostility	0.85 (8)	0.80	1.02 (8)	0.85	1.18 (6)	0.8	0.82 (7)	0.82
Alcohol use[22]	0.98 (7)	1.08	1.06 (7)	1.13	1.08 (8)	1.0	0.63 (8)	0.88
Distress index	1.71 (4)	0.86	2.04 (4)	0.67	2.06 (3)	0.7	1.57 (4)	0.84

A sub-theme within help-seeker willingness was the reduced ability to seek help which included a range of emotional difficulties students experience when they consider seeking help (e.g. "*my anxiety was getting the best of me but I felt too embarrassed to go to the service*" and *"getting help would mean admitting I have a problem and I'm not ready for that yet")*. These troubles were further influenced by the perception of not having enough time to justify seeking help (e.g. *"I have so much work to do I can hardly deal with the stress… then I feel I don't have time to look for help"*).

5.9.3 Access to alternative support

Approximately 24% of comments described a preference for using alternative support over seeking help through the counselling service. Self-help was the most referenced source of alternative support followed by attending an external service (e.g. NHS), or going to a GP at the university health service. The high frequency of self-help references suggests that it is an acceptable source of support that students can access quickly and have the motivation to do so. The high rate of reporting using medicalised services such as a GP or NHS clinic also suggests that students are more willing to approach these services compared to one specific to psychological wellbeing.

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[22] Subscale reported as substance misuse in CCAPS-62 version for help-seeking students

Figure 5.2. Percentage of UK help-seeking and non-help-seeking students that meet clinical and elevated-clinical criteria on CCAPS-34 subscales
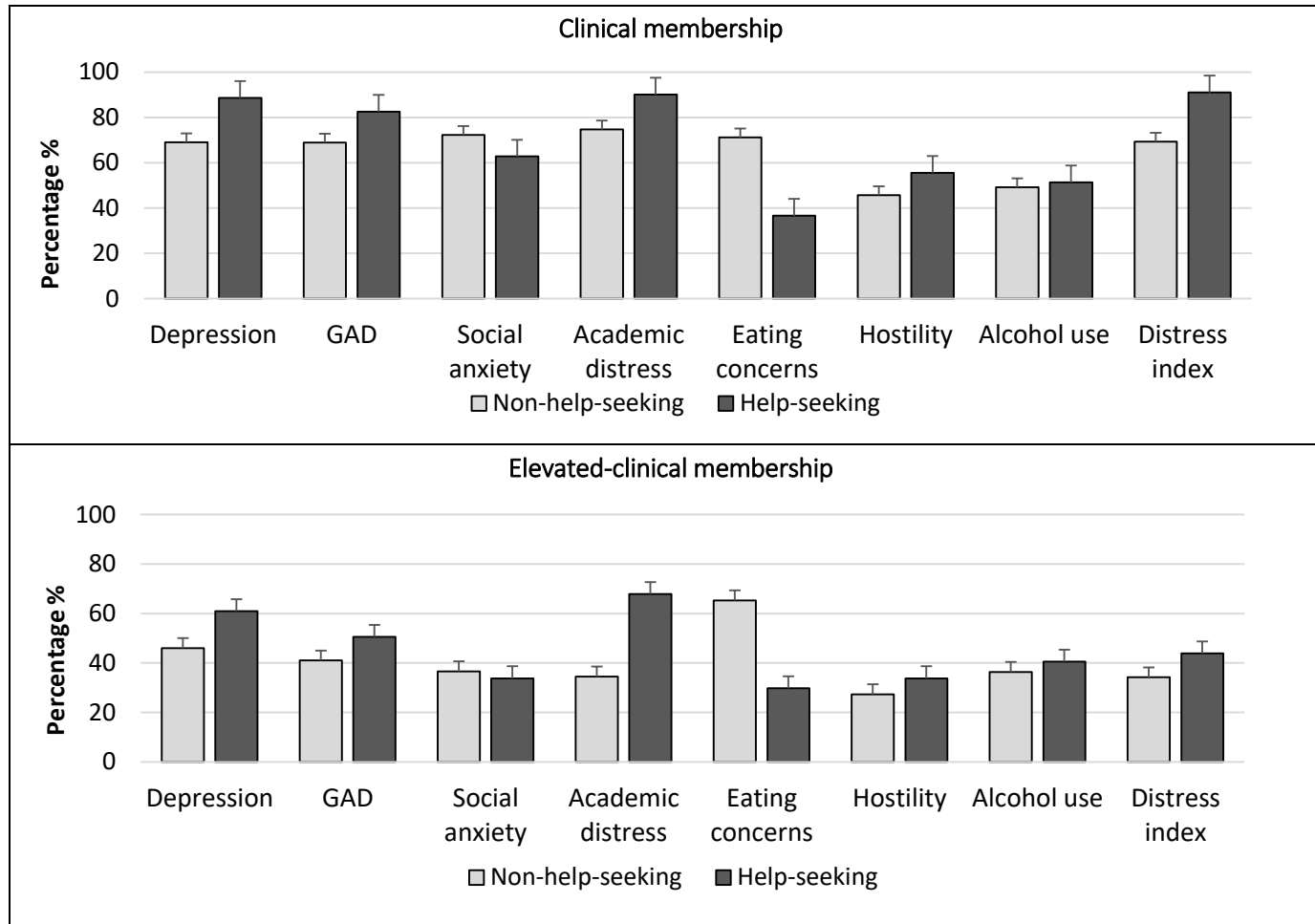
Despite the openness to self-help there was only one reference to attending a workshop at the counselling service and only 12 references for group support (e.g. self-harm). The final help-seeking barrier referenced was for stigma - accounting for only 3% of comments. Fifty-two per cent of these comments referred to personal pressure from stress being normalised as a student condition and a range of factors related to viewing mental health concerns as a weakness. Of the references related to stigma, all comments referred to students not wanting their mental health concern to go on record to protect job prospects.

5.9.2 Barriers to accessing support

A second prominent theme was barriers to accessing support with service characteristics contributing the most. The most common service characteristics included the waiting list, being unaware of how to access services, and needing support outside of term-time or off campus. Several references were made to the waiting list deterring students from seeking help at different points throughout the process including: 1) Initially exploring options (*"I've heard the waiting list was long... and I wanted help straight away"*); 2) deciding to seek help (*"I would be upping the waiting list for others who are unable to manage"*); 3) Staying on the waiting list (*"It was far too long so I didn't stay on the waiting list"*); 4) continuing sessions once receiving support (*"I've been to counselling and been told that there were no spaces for regular counselling for several months so I stopped going back"*); and 5) returning if another problem arises (*"I wanted to go back, but the waiting list was 6 weeks and I simply couldn't wait that long"*). Importantly, service characteristics raised more barriers than previous experiences or the perception of the service; suggesting that services would benefit from institutional backing to work more flexibly to offer support outside of the academic timetable and to better communicate available options.

Table 5.5. Summary of help-seeking themes, sub-themes, codes and text references stated in students'

survey comments, in order of referenced percentage

Theme	Sub-theme	Code	Respondents	References	Total	%
(1) Help-seeker willingness					*581*	40%
	Passive	Concern is not serious	102	93	*198*	
		Felt better in time	83	27		
		Yet to action	60	25		
		Kept putting it off	53	16		
		Thought the problem would go	53	12		
		Undecided	15	12		
		Unmotivated to seek help	9	9		
		Didn't want to commit to therapy	3	4		
(1) Help-seeker willingness						
	Reduced ability	Lack of confidence	62	50	158	
		Finds process too stressful	42	27		
		Not ready to seek help yet	21	19		
		Finds it difficult to talk	8	18		
		Struggling with acceptance	4	16		
		Didn't feel comfortable	3	14		
		Unclear on issue or how to explain	3	11		
		Doesn't want to talk to a stranger	1	3		
(1) Help-seeker willingness						
	Proactive	Receiving counselling	43	87	96	
		Seeking advice for a friend	5	9		

Table 5.5. (cont'd) Summary of help-seeking themes, sub-themes, codes and text references stated in students' survey comments, in order of referenced percentage

Theme	Sub-theme	Code	Respondents	References	Total	%
(1) Help-seeker willingness						
	Time	Didn't want to waste time	11	26	63	
		Limited time	8	23		
		Took time to decide	3	8		
		Fear of interfering with studies	2	6		
(1) Help-seeker willingness						
	Feared consequences	Feared consequences	15	19	34	
		Doesn't want to be judged	3	9		
		Doesn't want to be treated differently	2	6		
(1) Help-seeker willingness						
	Decisive	Wants help to go to someone in more need	17	25	*32*	
		Decided against help	5	7		
(2) Barriers to accessing support					*473*	33%
	Service characteristic	Waiting list	98	126	246	
		Unaware of how to access	12	33		
		Outside term times	9	26		
		Service unavailable	5	18		

Table 5.5. (cont'd) Summary of help-seeking themes, sub-themes, codes and text references stated in students'

survey comments, in order of referenced percentage

Theme	Sub-theme	Code	Respondents	References	Total	%
(2) Barriers to accessing support		Demand	10	17		
	Service characteristic	Didn't fit with therapist	10	10		
		Put off by website information	3	8		
		Put off by forms	1	2		
		Would prefer specific drop-in session	1	2		
		Campus environment	1	1		
		Cultural differences	1	1		
		Therapist gender	1	1		
		Limited gender support	1	1		
(2) Barriers to accessing support						
	Previous experience	Didn't feel adequately supported	26	61	165	
		General service experience	18	37		
		Didn't find service helpful	13	25		
		Didn't agree with advice	7	16		
		Poor experience from department	4	10		
		Friends' previous experience	4	10		
		Felt the service didn't have time for them	2	4		
		Patronising	1	2		

Table 5.5. (cont'd) Summary of help-seeking themes, sub-themes, codes and text references stated in students'

survey comments, in order of referenced percentage

Theme	Sub-theme	Code	Respondents	References	Total	%
(2) Barriers to accessing support						
	Perception of service	Feel like the service won't be able to help	18	40	62	
		Confidentiality	4	10		
		Service didn't suit international student	3	7		
		Service didn't suit mature student	1	2		
		Limited help available	1	2		
		Thought it would be invasive	1	1		
(3) Alternative support					*347*	24%
	Sources of support	Self-help	21	56	270	
		Referred to external service	20	49		
		GP	11	42		
		Support from family or friends	11	37		
		Mentoring	9	15		
		Mental Health Advisor	8	14		
		Group support	6	12		
		Specialist service	5	11		
		Personal tutor	5	10		
		Personal learning support plan	5	8		

Table 5.5. (cont'd) Summary of help-seeking themes, sub-themes, codes and text references stated in students'

survey comments, in order of referenced percentage

Theme	Sub-theme	Code	Respondents	References	Total	%
		Mindfulness	7	8		
		Referred from student support service	4	3		
		Online self-help	2	3		
		Physical exercise	1	1		
		Workshops	1	1		
(3) Alternative support						
	Specialist support	CBT	28	30	77	
		Disability service	25	29		
		Specific types of support listed	10	11		
		Mental health linked to physical	5	7		
(4) Stigma					*52*	*3%*
	Personal pressure	Stress normalised	13	13	29	
		Feel strong by coping alone	2	4		
		Feel like a failure for needing help	2	3		
		Doesn't want help from university	1	2		
		Want to deal with own issues	1	2		
		Want to wait for when it's needed	1	2		
		Doesn't want to burden friends	1	2		
		Doesn't want attention	1	1		
(4) Stigma						
	Prospects	Doesn't want record	20	23	23	
Total	13	82	878	1453	-	100

5.9.4 Presenting issues and outcomes

Of the 2,068 references made to help-seeking, 615 (30%) described presenting issues and outcomes experienced by students. Context specific experiences were the most referenced presenting issues with anxiety, depression, stress, and academic distress contributing the most. Contextual issues were followed by references to the severity of mental health needs reflected by students being referred externally to high-intensity or long-term interventions, being prescribed medication, or awaiting diagnosis. Only 4 comments were provided by students who didn't seek help because they had no mental health concerns. The remaining presenting issues were not specific to students (e.g. relationship problems or bereavement) and accounted for 7% of experiences raised.

The final core theme related to outcomes described by students. Whilst outcome comments were generally limited to 45 references (2%) there were more positive than negative. Positive comments were provided by students that had received support from the counselling service and believed it had either helped their general wellbeing or had made a positive impact on their academic ability. The remaining 19 references to negative outcomes described substantial changes such as leaving university, moving home and commuting to university, or considering dropping out.

Table 5.6. Summary of presenting issues and outcome themes, sub-themes, codes and text references stated in students' survey comments, in order of referenced percentage

Theme	Sub-theme	Code	Respondents	References	Total	%
(1) Presenting issues					570	93%
	Context specific	Anxiety	90	97	362	
		Depression	90	92		
		Stress	31	35		
		Academic issues	22	24		
		Exam stress	20	21		
		Eating concerns	15	19		
		Suicide	10	13		
		Self-harm	10	12		
		Family issues	5	11		
		Lonely	5	10		
		Adjustment issues	4	10		
		Social anxiety	4	6		
		Sleep problems	1	5		
		Homesick	1	4		
		Housing	1	2		
		Bullying	1	1		
(1) Presenting issues						
	Severity	External service	36	49	101	
		Medication	21	18		
		Long-term support	10	15		
		High intensity	9	12		
		No concerns	5	4		
		Awaiting diagnosis	2	3		
(1) Presenting issues					65	
	Ongoing needs	Previous help	9	21		
		Existing needs	5	17		
		PTSD	1	9		
		OCD	1	6		
		Gender issues	1	3		
		BPD	1	2		
		Phobia	1	2		
		ADHD	1	1		
		Asperger's	1	1		
		Grew up in a cult	1	1		
		Drug addiction	1	1		
		Family history of mental health issues	1	1		

Table 5.6. (cont'd) Summary of presenting issues and outcome themes, sub-themes, codes and text references stated in students' survey comments, in order of referenced percentage

Theme	Sub-theme	Code	Respondents	References	Total	%
(1) Presenting issues						
	Not specific to students	Panic attacks	9	11	42	
		Relationship problems	4	9		
		Sexual abuse	1	5		
		Bereavement	1	4		
		Crisis	1	4		
		Domestic abuse	1	2		
		Family responsibilities	1	2		
		Anger	1	1		
		Crime	1	1		
		Fears terrorism	1	1		
		Mood swings	1	1		
		Religion	1	1		
(2) Outcomes					45	7%
	Positive	Counselling helped	15	15	26	
		Counselling impact on academia	10	11		
	Negative	Left university	2	11	19	
		Moved back home	1	3		
		Dropping out	1	2		
		Regret	1	2		
		Changed to PT	1	1		
Total	6	53	878	615	-	100

5.10 Discussion

Having established levels of clinical distress in help-seeking university students, the current study aimed to identify the symptom profile of their non-help-seeking peers. Despite their non-help-seeking status, students experienced high levels of social anxiety, academic distress and generalised anxiety. More critically, students experienced clinical levels of social anxiety and eating concerns beyond the level of help-seekers in the UK and US, despite their overall symptom profile being lower. These findings replicate the trend for UK students to avoid seeking help until their mental health needs are severe and extend previous work by demonstrating that help-seeking relied on students' willingness, barriers to accessing services, having access to alternative support, and stigma. Strikingly, whilst there were no differences in the levels of distress at the

university level, several symptom clusters were identified at the faculty level. Social sciences students were the most distressed overall.

However, each faculty revealed distinct levels of distress, with only the engineering faculty scoring the lowest on all areas. Regarding help-seeking status, findings from the current study raise concerns for students who avoid seeking help as they were significantly more distressed on depression, generalised anxiety, social anxiety and academic distress than students currently receiving counselling. The trend for increased demands and severity of student mental health was first identified in Chapter 3 and found that most help-seeking students received high-intensity therapeutic support. As proposed earlier, this increase is likely attributed partly from the widening participating scheme (See Department for Business Innovation & Skills report, 2012) as more students with existing mental health concerns access HE. The predicted consequence of the widening participation scheme was extended by the current chapter which found that such needs could also prevent students from receiving embedded counselling; as students were referred externally to services which typically have longer waiting lists, are not available on campus, and are not flexible around academic commitments or availability (See Community mental health team, 2016).

The results from Chapters 3 and 4 suggested that the demand for high-intensity support reflects resistance to seeking help and that students' ability to cope is already being affected by their mental health needs. This assumption was extended by the current chapter, which found that students struggled to justify seeking help until their mental health needs were severe and debilitating. Students described several overlapping reasons for not seeking-help and their comments from the current chapter suggest that during the process of considering help, students first seek validation from friends, family, or personal tutors. On the occasions when students first sought advice, their mental health concerns could either be confirmed and then encouraged to seek professional help, or they were denied and discouraged from seeking further help. Together these findings highlight the silent vulnerability of non-help-seekers and raise the question of how severe students' mental health needs become before it is felt acceptable by them to receive help.

Comparisons between the symptom profiles across Chapters 4 and 5 revealed more social anxiety in non-help-seeking students compared to their help-seeking peers. Clinical levels of social anxiety have previously been documented in over 60% of university students, with up to 29% meeting high clinical criteria (Dell'Osso et al., 2014).

However, when focused on non-help-seeking students, the current study identified social anxiety in 70% of students experiencing low clinical symptoms and approximately 35% reaching high clinical symptoms. The levels of social anxiety are particularly concerning as socially anxious students tend to avoid academic responsibilities and their academic attainment can be deterred by physical symptoms of anxiety triggered by factors specific to the university context (Dell'Osso et al., 2014). Furthermore, the finding that non-help-seekers felt embarrassed to attend counselling, were not ready to seek help, and were willing to use self-help resources suggest that HE institutions would benefit from investing in effective self-help resources. Specifically, themes from the current chapter suggest that help-seeking resources should address: 1) exam stress; 2) managing time around academic commitments; and 3) maintaining psychological well-being at university.

Aside from the increased levels of social anxiety, high levels of eating concerns were also experienced in non-help-seekers beyond the level of help-seekers. This is less surprising when considered alongside social anxiety as individuals with low body satisfaction and low self-esteem experience higher rates of social phobia (Izgic, Akyüz, Doğan, & Kuğu, 2004). A second likely contribution is the heightened exposure to social networking sites that has been linked to eating disorders and body concerns, specifically when viewing photographs (Holland & Tiggermann, 2016). Considering the potential impact of social media on eating and body concerns is especially relevant in undergraduate students who spend a considerable amount of time on social networking sites (Pempek, Yermolayeva, & Calvert, 2009). Other contextual factors also include pressures to purchase/prepare food in a socialised environment with access to convenient food (Deliens, Clarys, Bourdeaudhuij, & Deforche, 2014). More importantly, the finding that non-help-seekers experience higher rates of eating concerns suggests that additional factors interfere with their relationship with food.

For instance, non-help-seekers described having limited time with an overall tendency to prioritise academic commitments. Therefore, non-help-seekers may also prioritise academic duties over other lifestyle factors such as preparing healthy meals and connecting with students in shared housing. The importance of offering support that is specific to the student context has been a central thread throughout the thesis. For instance, findings from Study 1 raised the importance of employing contextually trained therapeutic staff (e.g. MHAs), and findings from Study 2 stressed the importance of measuring student outcomes. The clinical relevance of using a student-specific clinical

instrument was further established in Chapter 4. Once again, the importance of measuring student distress was reflected in Chapter 5, which identified context-specific presenting issues (e.g. exam stress, social anxiety, isolation) alongside measures of academic distress that were distinctly elevated irrespective of help-seeker status. These findings highlight two key messages; 1) experiencing high levels of academic distress encourages students to seek help; and 2) *all* students could benefit from institutional programmes for managing academic distress.

Interestingly, Study 4 also found that being in an academic environment provided barriers to accessing support including: 1) services being unavailable outside of term-time, for distance learners, and placement students; 2) students believing they do not have time to seek help because of academic commitments; 3) stress being normalised as a student condition; 4) negative experiences from academic staff around student anxiety; 5) living with and/or supporting students experiencing mental health difficulties; and 6) students not wanting a record of a mental health issue to interfere with job prospects. In line with student counselling services offering support from contextually trained therapeutic staff, it is essential for preventative programmes to address students' needs. Chapter 5 identified the symptom profile of non-help-seeking students to include high levels of social anxiety and eating concerns. Furthermore, whilst the levels of distress in non-help-seekers were lower than help-seekers, experiences of academic distress and generalised anxiety were still the highest of all contextual symptoms measured.

This finding combined with the perception that students do not have time to seek help suggests that students would benefit from time management skills to compliment strategies for managing academic distress. Non-help-seekers also experienced a large variation of eating concerns that likely taps into a range of issues around food. For instance, mild concerns may indicate issues with establishing healthy eating habits whereas severe concerns give rise to behaviours of disordered eating. This variation also highlights that it is not only the responsibility of counselling services to support students with severe eating concerns, but that it is also the responsibility of the institution to ease concerns around food and promote healthy eating across the campus. The use of interventions targeting stress in university students has had more attention in recent years and offer innovative solutions to complement existing student support (e.g. Collard, et al., 2008; Lynch et al., 2011). For example, a meta-analysis on stress reduction interventions for university students found that, compared to psycho-

education and alternative programmes, interventions that employed techniques from Cognitive Behavioural Therapy (CBT) or mindfulness significantly reduced anxiety, depression, and both psychological and physiological signs of stress.

Interventions delivered with technology, (e.g. telephone, email, and online self-CBT) have replicated these findings and have been enhanced further when paired with therapist support (Collard, Avny, & Boniwell, 2008; Conley, Durlak, & Kirsch, 2015; Mullin et al., 2015; Ragehr, Glancy, & Pitts, 2013; Trockel, et al., 2011). Taken together, this growing body of work supports the application of mental health prevention programmes in HE, which need wider investment in the UK and provide innovative solutions for reducing the service waiting list. The impact of the waiting list has been a growing concern that services continually attempt to address (e.g. Mair, 2016). Contrary to prior concerns, Chapter 3 reported that the length of the waiting list was not associated with disengagement from services nor was it associated with receiving more counselling sessions. Therefore, findings from Chapter 3 suggested that students' service attendance (and the service DNA rates) is reliant on students being available despite their academic timetable and that the waiting list is not necessarily the primary barrier to students receiving help.

The current chapter extends this assumption with the finding that students believe they do not have time to seek help and/or seek help when the service is not available. Furthermore, despite Chapter 3 concluding that help-seekers are not negatively affected by the length of the waiting list, findings from Chapter 5 suggest that non-help-seekers can be deterred from seeking help. For example, the severity of symptoms experienced alongside the initial resistance to seek help suggests that by the time students feel able to seek help, they desire immediate access and feel unsupported when they must wait. Through this expectation of immediacy, students feel frustrated and unwilling to seek help again. Aside from the distinct severity of mental health concerns, students also described feeling better in time without help. This sub-group highlights those individuals that would benefit from low level preventive programmes accessible through the institution; rather than requiring an appointment with the counselling service.

5.11 Chapter summary

The combined findings from Chapters 4 and 5 indicate that the symptom profile of non-help-seeking students is distinct from their help-seeking peers, which either worsened through help-avoidant behaviour or improved without help. Non-help-seekers were

more socially anxious with varied eating concerns and generally viewed their mental health concerns as not worthwhile spending time away from academic duties. The point at which students commit to seeking help appears to be influenced by high levels of academic distress and by this point, help-seekers were not deterred by the waiting lists. By contrast, non-help-seeking students seem to wait for their mental health needs to worsen before seeking help and first seek validation from friends or family. Students who are deterred from seeking-help and report avoiding help displayed significantly higher levels of distress compared to students receiving professional help, however they cannot be reached by embedded counselling services. Moreover, the point at which non-help-seekers feel ready to seek help, they have a sense of urgency and unwillingness to wait.

Treatment preference also varied according to help-seeking status with help-seekers preferring face-to-face counselling, and non-help-seekers being more willing to self-help. These differences highlight the need for wider implementation of student support services that are accessible throughout the institution and without requiring assessment with the counselling service. There also needs to be wider investment for implementing effective preventative programmes and self-help resources that are *specific* to students' needs and are available throughout the academic year. Together these findings highlight three key messages: 1) the CCAPS is a contextually specific measure which can be used in the UK without alteration, both as an assessment and screening survey; 2) help-seeking and non-help-seeking students differ in their treatment preferences and presenting issues; and 3) it is important for research and services to measure presenting issues specific to students and when determining routes into therapeutic support.

Chapter 6: Comparing counselling alone versus counselling supplemented with guided use of a well-being app for university students experiencing anxiety or depression (CASELOAD): Protocol for a feasibility trial

6.1 Chapter overview

This is a methods chapter detailing the design of a feasibility trial informed by previous doctoral work presented in the thesis insofar. This protocol includes the background literature and rational behind design decisions including the training delivered to therapists and the additional study that informed training. Due to the level of detail needed to justify the trial design and the extensive data collection, results have not been presented in this chapter. Instead, results from the trial will be presented in Chapters 7-9 including quantitative and qualitutive sources of data used to address the feasibility factors outlined in the current chapter. By doing do, Chapter 6 provides the rational and methods used to design, implement, and evaluate the final empirical study – a feasibility trial comparing counselling alone versus counselling supplemented with guided use of a well-being app for university students experiencing anxiety or depression (CASELOAD).

This protocol has been published with the full citation being: Broglia, E., Millings, A., Barkham, M. (2017). Comparing counselling alone versus counselling supplemented with guided use of a well-being app for university students experiencing anxiety or depression (CASELOAD): protocol for a feasibility trial. *Pilot and Feasibility Studies, 3*. doi: 0.1186/s40814-016- 0119-2

To comply with the protocol being written before the study commenced, it has been written and maintained in the future tense. This trial was registered on 20/06/2016 (Ref: ISRCTN55102899) and can be found through the following link: http://www.isrctn.com/ISRCTN55102899.

6.2 Introduction

There is limited evidence demonstrating the effectiveness of counselling services in Higher Education (HE) and recent government initiatives have negatively impacted on student services. These changes have been particularly noticeable in the United Kingdom (UK), since new policies have raised tuition fees and widened access to university without financially supporting service growth (Osborne, 2003). As a result,

there is more pressure on university counselling services (UCSs) to demonstrate effectiveness and explore innovative solutions to continue to offer high quality support with less resource in a sustainable way (Holm-Hadulla & Koutsoukou-Argyraki, 2015). This is particularly challenging for student counselling services because they support a unique population with mental health needs that require therapists who are trained and experienced in the academic context.

For example, students require support that fits within the academic calendar and around periods of time when students are away from campus. Technology assisted therapy provides a promising solution to support student counselling, but the feasibility and effectiveness of doing so are unknown (Clarke & Yarborough, 2013; Mohr, Burns, Schueller, Clarke, & Klinkman, 2013). The current study aims to address these challenges by exploring the feasibility of supplementing face-to-face counselling with guided use of a well-being app for university students experiencing anxiety or depression.

6.2.1 University Counselling Services (UCSs) in the UK

UCSs are frequently evolving to address student demands and this has been widely accepted as a necessity (Eisenberg, Golberstein, & Gollust, 2007; Kitzrow, 2003). For example, a recent qualitative study summarised the changes experienced in a UK UCS (Randall & Bewick, 2016). These included the following prominent themes: 1) therapists are being encouraged to work more flexibly by catering the number and frequency of therapy sessions to best suit their clients' needs; 2) UCSs are offering more online support (e.g., online self-help) to manage growing demands with limited financial resources; 3) therapists' workloads are increasing to maintain high standards and meet growing demands in the absence of service expansion; 4) UCSs continue to be pressured to demonstrate effectiveness; and 5) there are concerns that UCSs may not be collecting the right type of data, not using the available data, or missing data after counselling.

Furthermore, a recent investigation of the usage and acceptability of therapeutic technology in student counselling revealed that many services are interested in knowing how contemporary therapeutic technology, such as mobile apps, can be used in student services and the potential implications of doing so (Broglia, Millings, & Barkham, 2017c). Taken together, these findings demonstrate how UK UCSs are embracing change and exploring innovative solutions to address recent trends in student mental health.

6.2.2 Feedback in therapy

In conjunction with finding new innovative solutions to address changes in UCSs, it is also important to explore whether existing methods can be enhanced to improve outcomes. One such method involves therapists providing feedback to clients about their responses on a clinical outcome measure to help clients acknowledge their progress, or to raise discussion about adapting treatment. This method of integrating feedback into therapy has been widely explored and its impact on clinical outcomes have been summarised in a recent scoping review (Krägeloh, Czuba, Billington, Kersten, & Siegert, 2015). For example, compared to clients who received no feedback, clients who had feedback from clinical measures discussed in therapy: 1) improved to a greater degree; 2) demonstrated improvements sooner; 3) required fewer therapy sessions; 4) were less likely to drop-out of therapy; and 5) maintained improvements at 6 and 12-months follow-up. However, by contrast, a recent meta-analysis of 17 clinical trials found no significant differences between feedback and no-feedback groups on symptom outcomes (Kendrick et al., 2016). Whilst there are mixed findings on the potential benefits of using feedback in therapy, the meta-analysis also concluded that the clinical trials exploring feedback in therapy exhibit strong bias and weak methodology.

Taken together, these mixed findings highlight the need for more rigorously designed clinical trials to explore the potential benefits of discussing feedback in therapy. Additionally, there is a need to understand the potential of augmenting therapy using technology, and given the ease with which mobile devices enable individuals to track various aspects of self-related data, monitoring feedback is a logical area in which to do this (Swan, 2012). Aside from the use of mobile technology to increase access to and uptake of psychological support, research demonstrates that therapeutic technologies can be cost-effective, acceptable, and show the potential to enhance the therapeutic process (Barak, Hen, Boniel-Nissim, & Shapira, 2008; Cavanagh & Millings, 2013; McCrone et al., 2004). Therefore, whilst the positive findings regarding feedback relate to clinical outcomes, the current study aims to apply the feedback model to discussing client thoughts, behaviours, emotions, and activities monitored daily on a well-being app.

6.3 The current study

The primary aim of the current study, offering face-to-face counselling, is to demonstrate whether discussion and guided use of a well-being app can be integrated into counselling sessions with university students experiencing anxiety or depression. To assess the extent to which this aim has been achieved, a range of primary and secondary feasibility factors will be assessed (termed feasibility metrics) from a range of quantitative and qualitative data sources outlined below. Due to the volume of data being collected throughout the trial, the combination of quantitative and qualitative data sources, as well as the number of primary and secondary feasibility metrics to assess, results will be reported in the three chapters following the present one.

Chapter 7 will present quantitative results addressing both primary and secondary feasibility metrics including: 1) recruitment (e.g. therapists, clients, duration, and optimal time of year); 2) treatment preference (including randomisation acceptability and impact on withdrawal); 3) baseline data (e.g. demographics, clinical severity, and resilience); 4) clinical change (i.e. across counselling); 5) therapy outcomes (including number of counselling sessions, clinical change at follow-up, resilience at follow-up, and satisfaction); 6) completion rate of measures (i.e. to infer acceptability); and 7) therapeutic alliance. Chapter 8 will expand findings with a qualitative exploration of primary feasibility metrics including client exit interviews and a therapist focus group. These qualitative accounts will further explore: 1) client satisfaction of the intervention, the counselling service, and wider research experience; and 2) therapist satisfaction, acceptability of the intervention and wider feasibility trial.

Finally, Chapter 9 will continue to expand findings through two analyses applied to audio recordings from the intervention (i.e. counselling with guided use of a well-being app) to address the remaining secondary feasibility metrics. Specifically, content analysis will be used to evaluate intervention fidelity, including inter-rater reliability on a random sample of recordings. Emergent thematic analysis will also be used to conceptualise how the app was used alongside counselling and how app usage contributed to therapeutic outcomes, if at all.

6.4 Methods

6.4.1 Study design rationale

According to the NIHR Evaluation, Trials and Studies Coordinating Centre (NETSCC), a feasibility trial is conducted before a main trial to estimate important design components and to determine whether a fully powered definitive trial is needed (i.e whether it would be feasible). Examples of the factors that feasibility trials aim to assess include: participant willingness to be randomised, recruitment duration to reach target sample size, and therapist willingness to recruit clients. Feasibility trials are different to pilot studies, which resemble a smaller version of a fully powered clinical trial and aim to test components of the main study. Feasibility trials can also be more explorative/flexible than pilot trials as several trial design components are yet to be established. For these reasons, the current study employed a feasibility trial design, rather than a pilot trial, because there is limited research to inform trial design and several design components could not be determined. The design of the feasibility trial was also pragmatic to ensure that the trial could be embedded into a student counselling service, with limited disruption to the service and without denying access to treatment. Employing a pragmatic design was necessarily to optimise the acceptability of the trial being embedded into practice, but also to simulate the natural running of the service. This level of pragmatism was essential because student counselling services are typically different and unique to their student population.

6.4.2 Study design

The feasibility trial utilises a two-arm, parallel non-randomised design comparing counselling alone (TAU) versus counselling supplemented with guided use of a well-being app and discussion of app activities (enhanced intervention) for university students experiencing anxiety or depression. The design is displayed in Figure 6.1. The feasibility trial was registered on the BioMed Central ISRCTN registry on 20/06/2016 under the acronym CASELOAD (Counselling plus Apps for Students Experiencing Levels Of Anxiety or Depression).

6.4.3 Ethical approval

The study received ethical approval from the University of Sheffield, Department of Psychology, Research Ethics Committee (REC) on 05/01/2016 (ref: 006171 – See Appendix F1-2). The research-informed training programme within the current study also received separate ethical approval from the University of Sheffield, Department of

Psychology, REC on 17/11/2015 (ref: 006727 – See Appendix F3-4). The protocol also underwent independent scientific review by David Saxon, Centre for Psychological Services Research.[23]

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[23] David Saxon (d.saxon@sheffield.ac.uk), Centre for Psychological Services Research, Mental Health Group, ScHARR, The University of Sheffield, Regent court, 30 Regent Street, Sheffield, S1 4DA.

Figure 6.1. Participant flow diagram for CASELOAD feasibility trial, with target sample size indicated for each condition, at follow-up, and for the exit interviews
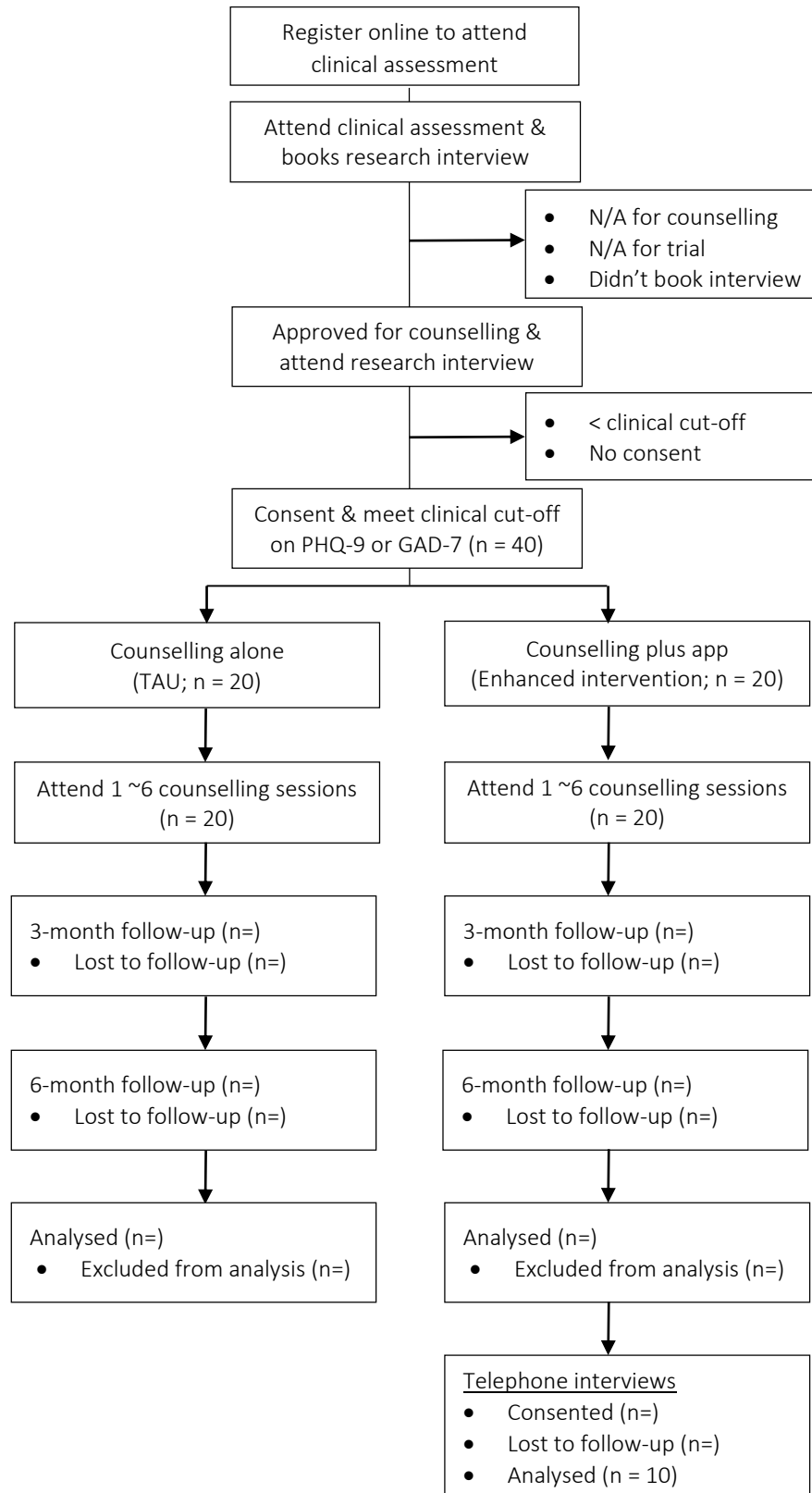
6.4.4 Study setting

The trial takes place at the University of Sheffield UCS[24], which was established in 1987. In 2015, when the research commenced, the University had 25,664 registered students[25], of which 2,058 (8%) received support from the counselling service. The therapeutic team equates to 8.9 FTE including: 1) a Mental Health Support Coordinator (1 FTE); 2) Head of Service offering high intensity psychotherapeutic support (1 FTE); 3) a Mental Health Advisor (1.2 FTE); 4) volunteer trainees (0.72 FTE); and 5) 8 therapists offering a range of psychotherapy and counselling (4.98 FTE). The service typically offers up to 6 counselling sessions, but this can be extended to 10 counselling sessions and the maximum number of sessions any student attended in 2015 was 33.

On average, students waited 5 working days for the first face-to-face assessment (i.e. to determine the type of support needed) and a further 14.5 working days for their first counselling session. Between the initial assessment and the first counselling session, approximately 20% of students Did Not Attend (DNA) counselling. The service also offers a range of alternative support options including: 1) online self-help/books; 2) email counselling; 3) online counselling (e.g. via Big White Wall; www.bigwhitewall.com); and 4) online communities. The UCS has an ethos of supporting research, including the CCAPS validation study (see Chapter 4) and embraced the proposed feasibility trial.

6.4.5 Study population

Participants will be 40 help-seeking university students (aged 18 and over) who have been approved for counselling and meet moderate clinical criteria for depression (score ≥ 10 on the Patient Health Questionnaire, PHQ-9 – see later section) or anxiety (score ≥ 10 on the Generalised Anxiety Disorder Scale, GAD-7 – see later section). Inclusion criteria comprise: 1) undergraduates (all years), 2) postgraduates, and 3) international students. Participants will be excluded if they meet any of the following criteria: 1) present with a high risk to self or others; 2) are currently receiving therapeutic support; or iii) have complex mental health problems beyond anxiety and/or depression.

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[24] University of Sheffield Student Counselling and Well-being Service, 36 Wilkinson Street Sheffield, S10 2GB, United Kingdom (tel: +44 114 222 9684; email ucs@sheffield.ac.uk). Website: www.shef.ac.uk/ssid/counselling.

[25] Taken from data provided for the annual survey in Chapter 3

6.4.6 Recruitment

In line with routine practice, students who approach the counselling service will be assessed by a therapist to determine their appropriateness for counselling. Students who are approved for counselling (based on clinical judgement) will be provided with a study information booklet and invited to attend a 20-minute research interview onsite to determine their eligibility. Leaflets, booklets and posters will also be displayed in the waiting room to raise awareness of the trial and encourage students to volunteer. Students who attend the research interview will be asked to provide written informed consent and will be assessed for eligibility through completion of the PHQ-9 and GAD-7. Eligible participants will be allocated to either the TAU condition or enhanced intervention according to the clinical judgement of the therapist that provided the initial assessment.

6.4.7 Allocation

The study is a non-randomised feasibility trial that aims to address the acceptability of randomisation prior to planning a pilot trial in preparation for a future definitive trial. Therefore, allocation will be based on therapists' clinical judgements of each student's unique situation and primary reason for approaching the service. This will inform the acceptability and feasibility of randomising for the pilot trial. Participant allocation will also depend on whether the assessing therapist is involved in the trial (based on availability) and whether the therapist is participating in the provision of the enhanced intervention or TAU condition. Because the enhanced intervention relies on therapists that are committed and trained to supplement counselling with a well-being app, participants assessed by therapists in the TAU condition will not have the opportunity to join the enhanced intervention.

However, participants assessed by therapists in the enhanced intervention may be allocated to either condition as determined by their therapist. Similarly, participants assessed by therapists providing the enhanced intervention for whom the app is deemed inappropriate (e.g., client presents with inappropriate/excessive technology use or risk negative exposure to online communities for self-harm etc.) will be allocated to TAU. Considering these design elements, allocation will depend on the following factors: 1) whether the initial clinical assessment is with a therapist who is part of the trial; 2) whether the assessing therapist is allocated to provide the enhanced intervention or TAU condition; 3) the clinical judgement of the therapist regarding whether participating

in the trial would be appropriate for the client; and 4) the clinical judgement of the therapist regarding which intervention would be appropriate for the client.

Whilst this allocation procedure is reliant on a therapist's clinical judgement, it is arguably the most appropriate allocation method for a non-randomised study and it keeps the client's welfare in the forefront. Integrating a well-being app with face-to-face counselling with students experiencing moderate anxiety or depression is a new development with limited understanding of the implications. Therefore, using clinical judgement to inform the allocation will better monitor risk and feasibility metrics, which therapists will document, to inform the screening criteria of a future randomised trial. After the routine clinical assessment, participants will attend a one-to-one research interview (approximately 20 minutes) to provide written informed consent and determine eligibility before potentially joining the trial. During the research interview all participants will be informed about both treatment conditions and will be asked their preference (see later section on Treatment preference).

The preference, as well as associated reasons for preference, will be recorded in the recruitment checklist information. Irrespective of the condition, participants will not be asked to cease using any existing well-being apps, but their use will be noted in the recruitment session and explored in the exit telephone interviews. Whilst the use of existing apps may pose risk of contamination, the enhanced intervention relies on the integration of app activity within counselling and participants in the control condition will not receive guided advice on the well-being apps they may use. In addition, group differences in outcome measures can be compared before/after participants are removed for using additional well-being apps. Combined, this information will be used to inform the recruitment rate, randomisation procedure, allocation procedure and blinding for a fully powered RCT.

6.4.8 Therapists

All therapists in the trial are accredited either by the British Association for Counselling and Psychotherapy (BACP) or the UK Council for Psychotherapy (UKCP), and are employed by the UCS. A minimum of 6 therapists (2 control: 4 intervention) will be assigned to support the trial, both in development and delivery, and will deliver either the enhanced intervention or TAU condition based on their preference. Therapists will also be trained by a researcher in the details specific to the intervention they are allocated to (see training section below). When entering the trial, therapists will provide

a statement describing their model of practice and specific therapeutic style. The aim of collecting these statements is to improve the reporting quality when describing the therapy available, and to aid development of a clinical manual as an outcome of the feasibility trial. Therapists will also be provided with the BACP competency framework (Hill & Roth, 2016) for the University and College Counselling (UCC) context together with the most recent service clinical handbook to ensure best practice.

Whilst these handbooks will be used to reinforce clinical competency throughout the trial, one outcome of the feasibility trial is to refine the clinical frameworks and develop a manualised training programme for delivering the enhanced intervention in a university counselling setting. For the present study, clinical practice will be reinforced throughout the trial with fortnightly team meetings with the head of service, onsite researcher and counselling team. There will also be optional daily drop-in sessions for members of the counselling team to query issues with the onsite researcher.

6.4.9 Measures

The timeframe for administering measures has been summarised in Table 1 and in a Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) diagram in Figure 6.2. The clinical outcome measures, primary and secondary feasibility measures have been summarised below.

6.4.10 Clinical outcomes

6.4.10.1 Clinical Outcomes in Routine Evaluation (CORE-10)

The 10-item Clinical Outcomes in Routine Evaluation Outcome Measure (Barkham et al., 2013) will be administered at the initial clinical assessment (pre-intervention) and at every counselling session, to measure changes in general psychological functioning. Items refer to the previous week and are scored on a 5-point Likert scale (0 = *'not at all'*; 4 = '*most or all of the time*'), whereby higher scores indicate higher symptom severity. The CORE-10 is a shortened version of the Clinical Outcomes in Routine Evaluation-Outcome Measure (Barkham et al., 2001), which has been used extensively in mental health services in the UK for over a decade. The 10-item version has been validated against CORE-OM, has been shown to be sensitive to change, and can be used to determine whether a client meets membership of a clinical population (score of ≥ 11).

6.4.10.2 Counseling Center Assessment of Psychological Symptoms (CCAPS)

CCAPS-62 (Locke et al., 2011) is a measure developed in the United States specifically for the student college population and will be administered with CORE-10 at the initial clinical assessment (pre-intervention) to measure changes in student-specific mental health concerns. In line with its intended use, the shortened version CCAPS-34 will also be used alongside the CORE-10 at every counselling session. Items refer to the previous 2-week period and are scored on a 5-point Likert scale (*0 = 'not at all like me'; 4 = 'extremely like me'*), whereby higher scores indicate higher symptom severity. In addition, because CCAPS was designed for UCSs to measure student mental health, it also monitors changes in the following areas: depression, generalised anxiety, social anxiety, academic distress, eating concerns, hostility, substance abuse, family distress, and suicide ideation.

The shorter CCAPS-34 version comprises condensed versions of these subscales except for family distress, which is unique to the CCAPS-62. The substance abuse subscale also reduces to measure alcohol use only in the CCAPS-34. Within each construct, CCAPS determines clinical membership (e.g. clinical vs. non-clinical) and severity (e.g. low vs. high clinical severity), which are detailed in the CCAPS clinical guide. Finally, CCAPS has been validated in UK samples through use in UK UCS (Broglia, Millings, & Barkham, 2017; doi: 10.1002/cpp.2070).

6.4.10.3 Patient Health Questionnaire (PHQ-9) and Generalised Anxiety Disorder (GAD-7)

The 9-item Patient Health Questionnaire (Spitzer, Kroenke, & Williams, 1999) and 7-item Generalised Anxiety Disorder (Spitzer, Kroenke, Williams, & Lowe, 2006) will be administered in the research interview, after treatment completion (3-month follow-up), and at follow-up (6-month follow-up), to measure depression and anxiety respectively to determine eligibility. Clients who reach moderate clinical criteria for depression (score ≥ 10) or anxiety (score ≥ 10) will be invited into the trial. These measures will also be administered at 3-months and 6-months after the consent date to monitor changes in symptoms. Items on PHQ-9 and GAD-7 refer to the last two weeks and are scored on a 4-point Likert scale (*0 = 'not at all'; 3 = 'nearly every day'*) whereby higher scores indicate higher severity.

Figure 6.2. SPIRIT diagram displaying schedule enrolment, interventions, and assessments of the CASELOAD feasibility trial

	Enrolment	Allocation	Post-allocation										Close-out
Time point	$-t_1$	0	t_1	t_2	t_3	t_4	t_5	t_6	t_7	t_8	t_9	t_{10}	t_x
Enrolment:													
Clinical assessment	X												
Eligibility screen	X												
Informed consent	X												
Allocation	X												
Interventions:													
Counselling alone (TAU)			▬	▬	▬	▬	▬	▬					
Counselling plus well-being app (intervention)			▬	▬	▬	▬	▬	▬					
Assessments:													
PHQ-9, GAD-7, CD-RISC-10	X	X									X	X	
CORE-10, CCAPS	X	X	X	X	X	X	X	X					
WAI (therapeutic alliance)					X								
Randomisation acceptability, treatment preference,		X											
Intervention fidelity			X	X	X	X	X	X	X	X			
CSQ-8 (and client satisfaction)									X	X			X

t1-t6 = counselling sessions 1-6; t7 = participant interviews; t8 = therapist focus group; t9-t10 = 3-month and 6-month follow-up measures; tx = end of counselling which could be any session from 2-6

Both measures have been used widely by mental health services to measure depression and are mandatory in the Improving Access to Psychological Therapies (IAPT) initiative in the National Health Service (NHS). The purpose of using these measures in the current study is to benchmark outcomes against primary care services accessed by the general clinical population to allow comparisons between student and non-student clinical populations.

6.4.10.4 Connor-Davidson Resilience Scale (CD-RISC 10)

The 10-item Connor-Davidson Resilience Scale (Campbell-Sills & Stein, 2007) will be administered in the research interview (pre-treatment), after completion of counselling (3-month follow-up), and at follow-up (6-month follow-up) to measure changes in resilience. Items refer to the previous month and are scored on a 5-point Likert scale (0 = *'not true at all'*; 4 = *'true nearly all of the time'*), whereby higher scores demonstrate higher resilience. By measuring resilience, the CD-RISC 10 also measures an individual's ability to tolerate change, pressure, personal problems, negative outcomes, painful feelings and illness. The CD-RISC 10 is a short version of the original CD-RISC 25, has good internal consistency (Cronbach alpha .85), good construct validity (e.g., resilience moderates impact of maltreatment on mental health), and has been demonstrated to have a factor structure which is more stable than CD-RISC 25 (Campbell-Sills & Stein, 2007; Connor, 2003).

6.4.11 Selection of a well-being app

There are a large variety of smartphone apps that offer tools and support for improving well-being via a range of common features. Whilst there are many apps to choose from they are typically based on Cognitive Behavioural Therapy (CBT) and mindfulness to offer tools for: 1) tracking daily moods and behaviours; 2) reflecting on diary entries; 3) setting goals; 4) completing exercises to relax and defuse negative emotions; and 5) interacting with anonymous online support communities for peer led support. Some of the most promising well-being apps include Pacifica (http://www.thinkpacifica.com/) and Headspace (https://www.headspace.com/). Most recently, a systematic review evaluated the quality of current mental health apps based on 16 recommendations and the top-ranking apps, starting with the highest quality, include: 1) HealthyMinds; 2) AnxietyCoach; 3) Moodkit; 4) Pacifica; and 5) SAM (See Bakker, Kazantzis, Rickwood, & Rickwood, 2016).

Whilst Bakker and Colleagues (2016) conclude that it is not possible for an app to meet all 16 recommendations, the top 5 meet the following criteria: based on CBT; address anxiety and low mood; permit the reporting of thoughts, feelings and behaviours; offer reminders; have inbuilt activities; and contain a progress a log. Regarding the aims of the current study, and to aid the decision of selecting a well-being app, the following criteria were also applied: 1) applicable to university students (e.g., providing tools to help manage social anxiety, depression, stress and general aspects of

student lifestyle); 2) demonstrates potential to be integrated with face-to-face counselling; 3) available across iOS and Android platforms; 4) offers a range of features overlapping with other well-being apps; and 5) provides a promising free version to permit continued service use after the trial without financial implications.

Based on these criteria, the Pacifica app was selected and evaluated with a volunteer student sample (see next section), before it was implemented in the current feasibility trial. Whilst the app offers a free version with restricted variations of each feature (e.g. only 3 relaxation exercises compared to 8-10), the full version was used in both the evaluation study and current study to allow robust evaluation of all available features representative of other well-being apps. Furthermore, a secondary feasibility outcome will explore the added gain of using the full version (£2.99 pcm) compared to the free version. In both studies, a series of annual app subscriptions were purchased and provided to participants as unique gift codes. All payments were subject to the standard fee for public users and no financial incentives or waivers were provided by the Pacifica development team. While the present study utilised a specific app (i.e., Pacifica), the reasoning was that this app was used in the trial as representative of well-designed apps in the field rather than being an evaluation of Pacifica per se.

6.4.12 Evaluation of well-being app (Pacifica)

To aid the training, risk monitoring and intervention delivery of a well-being app in the current study, a preliminary evaluation study was conducted with the well-being app (ethical approval reference: University of Sheffield, Department of Psychology, 006727). The aims of the evaluation study were twofold: 1) to explore students' experiences of using the well-being app to determine features that require additional support; and 2) to explore therapists' experiences of using the well-being app to understand how various features could compliment counselling. The student sample comprised 12 healthy volunteers (UG and PG) whereas the therapist sample included members of the counselling team who were already scheduled to engage with the feasibility trial. Students attended a research session to learn about each app feature and were encouraged to use the app daily for 7-days. Figure 6.3 displays the range of available features alongside images of how each feature is displayed on a mobile phone.

Students were instructed to use all app features once before selecting 2-3 features to use throughout the week. At the end of the week, students completed an evaluation form, inputted their app data into a spreadsheet, and described their overall

experience to a researcher (EB) in an interview. Based on their feedback and availability, 7 students (UG and PG with positive and negative experiences) attended a focus group to discuss their experiences and suggestions for improving the app (See Appendix F5 for participant flow diagram). The therapist sample comprised 5 therapists from the UCS who were scheduled to deliver the enhanced intervention condition of the feasibility trial. After attending a one-to-one research session to learn about each app feature, therapists were instructed to use the app daily for 7-days. During this time, therapists were advised to use all app features and to consider: 1) clients who may benefit from using each feature; and 2) how the app could be integrated between and within counselling sessions.

At the end of the week, therapists attended a focus group to discuss the feasibility of clients using the app alongside counselling and whether it would be feasible to review app activity during counselling sessions. Feedback from student and therapist groups shaped the enhanced intervention and refined staff training for the current feasibility trial.

6.5 Key findings from app evaluation used to inform training

6.5.1 Feedback from initial app evaluation

After using the well-being app for 7-days, students generally described positive experiences whereby the app was viewed as quick to use and easy to fit into a busy lifestyle (Table 6.1). More critically students experienced raised awareness of their well-being and described feeling encouraged to address habits which could positively impact their mood. Table 6.2 summarises students' experiences of using the well-being app for 7-days with reference to each app feature.

Figure 6.3. Summary of app features with screen display examples when viewed on a mobile phone

Prompts	Home screen	Mood Tracking	Progress Graph
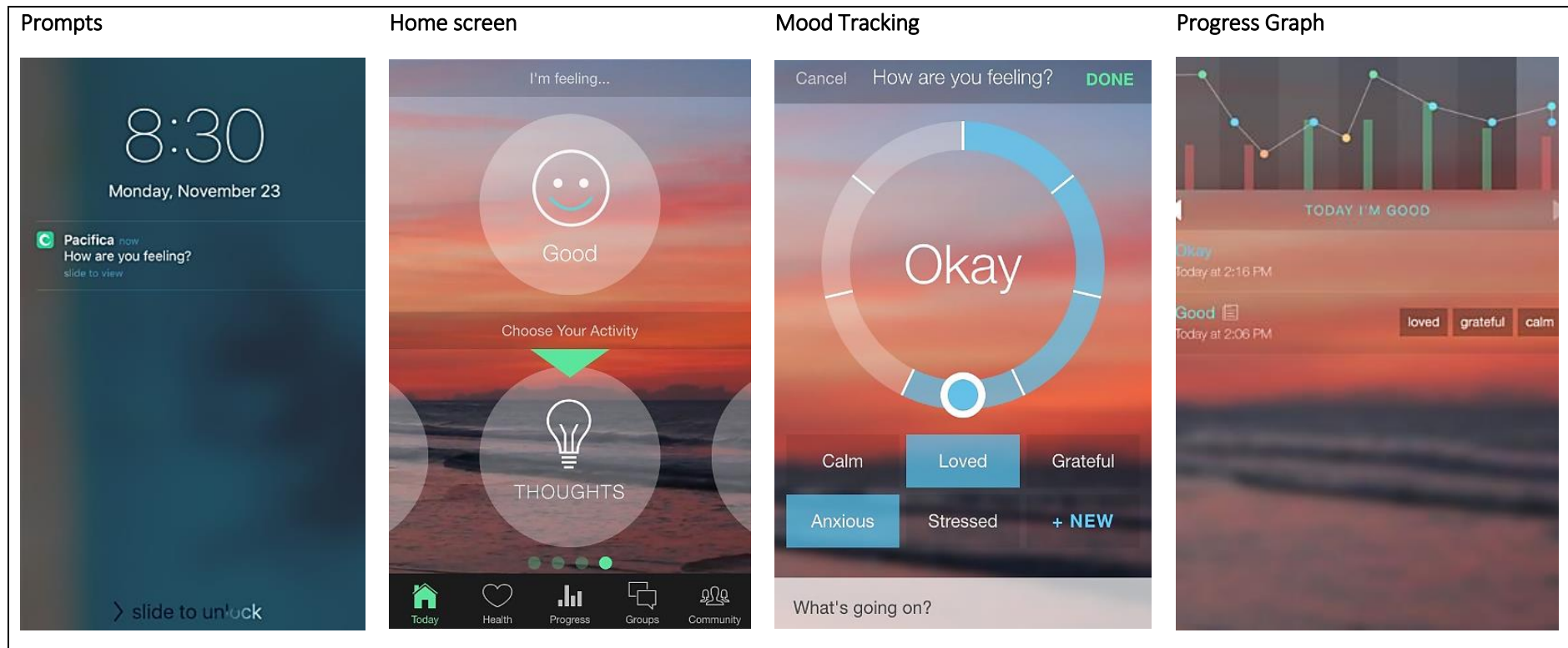
Figure 6.3. (cont'd) Summary of app features with screen display examples when viewed on a mobile phone

Health Tracking	Exercises	Thought Challenges	Online Communities
Exercise	RELAX CALVES	**I'm not sure** — I don't see a label that fits.	COMMUNITIES
Eating		**Catastrophizing** — If something goes wrong, it'll be a disaster.	**Gratitude** — What are you grateful for today? Share it here.
Water		**Emotional Reasoning** — Mistaking your feelings for actual facts.	**Quotes** — Share your favorite quotes and affirmations here.
Alcohol		**Mind Reading** — Believing you know thoughts & motives of others.	**Health** — Which health habits help you? Discuss here.
Family		**Fortune Telling** — Predicting future events as if they were certain.	**Relax** — How do you relax each day?
Friends		**Pressurized / Extreme Words** — Using words like always, never, can't, should, etc.	**Mindfulness** — How do you stay mindful each day?xxx
Relationship			
Hobbies			Today Health Progress Groups Community
Cannabis			

Positive experiences were predominantly associated with tracking and reminders whereas experiences from setting goals were generally ambivalent. Students had mixed experiences of the journal feature where they either attempted to log their thoughts and needed help to change negative thoughts, or students were not willing to complete the journal because they didn't feel comfortable logging thoughts. Online communities were generally viewed as irrelevant and were not used whereas relaxation exercises were described as quick and simple activities that helped users to relax even when busy. A range of negative observations was also raised by students, which included lacking motivation to use the app, disagreeing with app content (e.g. suggested goals), or feeling low when regularly logging negative moods.

6.5.2 Feedback from student focus group

Following the initial app evaluation, a sub-sample of 6 students completed a focus group within 14-days of using the app. Thematic analysis (Braun & Clarke, 2006) from focus group content identified 4 themes, 10 sub-themes, 24 codes, and 132 text references. Themes included: 1) *Features* (sub-themes: tracking, goals, thought log, online communities, and meditations); 2) *Outcomes* (sub-themes: raised awareness, and sense of achievement); 3) *Usage* (sub-theme: improvements); and 4) *User characteristics* (sub-themes: motivation, and context). Weighted percentages were calculated from the number of text references that were discussed in each code to establish prominent experiences. Fifty-three per cent of the discussion referenced tracking features, with two prominent opinions that tracking moods alongside various health behaviours personalise the app and helped to monitor daily habits affecting well-being. For example, one student learned that they felt less stressed when they spent time outside whereas another student felt happier when they ate healthily.

Tracking features were also dominant in the outcomes theme whereby students again reported raised awareness of their well-being and identified positive behaviours to reinforce moods. Setting goals and accessing online communities were generally viewed negatively as students struggled to relate to example goals or set their own goals. Regarding online communities, students felt uncomfortable contributing to discussions with strangers, felt frustrated by group notifications, or felt low reading negative content.

Table 6.1. Summary of app feature preferences indicated from student volunteers' evaluation forms after using a well-being app for 7-days

ID	Motivation	Overall experience	Criticisms	Impact
101	Improve well-being & curiosity	Positive and wanted more time to use it	It might be difficult for someone with low mood to be reminded of their low mood	Encouraged user to exercise more and drink less caffeine. Meditations were helpful.
102	Research	Wasn't motivated to use it	More reminders to motivate user; specific reminders (e.g. complete mindfulness activity)	Minor impact as wasn't motivated to use it and the features didn't seem relevant
103	Improve well-being & curiosity	Enjoyed the tracking features and learned how to better manage mood	Need to include food diary; would like to set own goals	Raised awareness of mood and daily habits
104	Interest in apps	Interesting to use, but won't continue	Would like to view progress of all activities in one graph; would like tips/insights on data	Raised awareness of sleep and mood
105	Improve well-being & curiosity	Easy to use and liked how it had many features which were quick to complete	Would be useful to access features offline	Encouraged user to make time to meditate and to think about long-term goals
106	Improve well-being	App helped to better understand feelings	Would like to add notes to each tracked behaviour (e.g. reason for sleep duration)	Raised awareness of their mood and health behaviours
107	Curiosity & research	Raised awareness of moods and behaviour, but don't feel they need it	More detailed tracking options for food	Helped user to acknowledge positive aspects of their situation and raised awareness of moods
108	Curiosity & research	Easy to use and like how it doesn't take long to use.	Wasn't sure how to add own goals. Would like more guidance on how to challenge thoughts	Raised awareness of how important it is to schedule time to see friends when stressed.
109	Improve well-being	Avoid well-being apps, but found it helpful and easy to use	Didn't agree with sleeping >10 hours being coded as good by the app	The goals encouraged the user to get out more and try new activities. Raised awareness of health

Table 6.1. (cont'd) Summary of app feature preferences indicated from student volunteers' evaluation forms after using a well-being app for 7-days

ID	Motivation	Overall experience	Criticisms	Impact
110	Improve well-being	Preferred this app to other well-being apps as easiest and most helpful	None – it's a great app	Raised awareness of moods/thoughts and encouraged user to try different techniques
111	Improve well-being & interest in apps	Really enjoyed using it. Easy to use and lots of features. Good to customise to suit needs.	Would prefer to see all tracked behaviours in one graph (rather than separate)	Raised awareness of how daily activities impacted overall health. On bad days, the app helped the user to take a break and think about how to improve their day
112	Curiosity & research	Interesting to see how mood linked to behaviours	Didn't know how to change reminder to occur during the day	Encouraged user to exercise more to improve their mood

When discussing personal characteristics, students described the app being appropriate for suiting students and young professionals with hectic lifestyles that pressure individuals to neglect their health and well-being. Interestingly, despite students reporting no mental health concerns, they also wanted guidance, feedback, and more responsive suggestions on how to improve their current situation. This feedback, together with comments from the evaluation form, was shared with therapists and used to inform training.

Therapist training was updated to elucidate ambiguous app functionality including: setting app reminders, customising goals, looking back on tracked moods/behaviours, and generally customising features to suit client needs. Therapist training was also updated to highlight general difficulties reviewing the journal whereby students struggled to provide alternative scenarios for negative thoughts. Moreover, although this feature emphasises CBT techniques, all therapists were encouraged to discuss this feature within the counselling session for any clients logging their thoughts. Therapists were also encouraged to personalise app usage by working with clients to set their own goals, log specific behaviours that may be causing distress, and to raise difficulties in the session.

6.5.3 Feedback from therapist evaluation

In parallel to the student evaluation, therapists engaged in the trial provided feedback on their initial impressions on the app and wider research study. At this stage, therapists had had a one-to-one session with the researcher to introduce the app, the study, and encourage app usage leading up to the group training session. Specifically, therapist feedback was provided before receiving group training. Therapists' overall impression of the app was high (mean = 4.2 (out of 5), SD = 0.45) and rated the appearance and functionality highly (appearance: mean = 4.4, SD = 0.55; functionality: mean = 4, SD = 0.71). Despite most therapists commenting on the app's CBT focus, all therapists were open minded and optimistic about the app fitting into sessions, even if therapists did not currently use CBT techniques. However, when asked to comment on initial concerns, non-CBT therapists experienced more uncertainty about using the app than CBT therapists.

Table 6.2. Summary of comments provided by student volunteers' evaluation forms for each feature of a well-being app

ID	Reminders	Tracking	Journal	Goals	Exercises	Community
101	Useful	Useful and insightful	Useful to look back on	Not enough time to use	Very helpful for stress and muscle tension	-
102	Need more; easy to ignore	Good and easy to use	Lacked motivation	Good examples, but not always relevant	-	-
103	Need more; easy to ignore	Helpful to see changes in mood and links to behaviour	Useful to have more insight into problem thinking styles	Helped to be more aware about their short-term and long-term goals	Didn't use as they haven't been helpful in the past	Annoying with lots of notifications
104	Good to set later in the day	Liked linking moods to notes and events	Felt awkward to use	Goals didn't seem relevant		
105	Useful	Helpful and easy to use	Found it very useful to understand thinking style	Goals didn't seem relevant	Useful and easy to find time to do	Joined gratitude group; didn't use
106	Feels like a greeting from a friend	Liked linking moods to notes and events	Lacked motivation	Felt good when they completed a task; felt bad when couldn't complete a goal	Enjoyed breathing exercises	-
107	Would have forgotten without	Raised awareness of positive moods	Already aware of thoughts and don't like writing	Already feel in control of goals, therefore didn't use	Useful relaxation before bed	Didn't appeal
108	Good prompt to use app	Helpful graph linking moods with behaviours	Struggled to know how to change thoughts	Would rather set own goals	Used on the train; liked short exercises	None seemed relevant
109	Helpful	Good to see links between habits	Didn't appeal	Goals helped user to try new activities and get out more	Muscle relaxation and meditation helpful	Didn't appeal
110	Useful	Good to track mood alongside habits	Difficult to change negative thinking	Like how it gives examples and logs completed goals	Good to customised length and audio	Didn't want to talk to strangers
111	Good prompts	Liked adding brief thoughts to mood log	The thought reflexion was interesting to use	Liked the range of examples	Quick and easy to use	Didn't appeal
112	Needed prompts during the day	Liked tracking different factors of well-being	Didn't really use	Helpful to try new activities	Easy and convenient to fit into busy day	Didn't appeal

Therapists rated the individual app features in the following order of preference: relaxation exercises (mean = 4.2, SD = 0.84); tracking (mean = 3.6, SD = 1.34); journal (mean = 3.4, 0.55); reminders (mean = 3.2, SD = 0.84); goals (mean = 2.8, 1.10); and online community (not used by any). All therapists believed it would be feasible to integrate the app into their existing therapeutic model of work, particularly for clients with the following attributes: struggling with self-care; lack motivation to engage with their needs; experiencing anxiety; experiencing negative thought styles; willing to actively address their low mood and/or actively take part in making some changes in their life. At this initial stage of pre-training, therapists generally rated their confidence 3-4 (out of 5) and believed that their confidence would increase following practical work with clients.

6.6 Training

Prior to commencement of the trial, all participating therapists will attend a one-to-one training session with a researcher (EB) to address the following: 1) knowledge of the trial research process; 2) language use for describing the trial to students; 3) therapist expectations; and 4) areas of concern. Training sessions with therapists in the enhanced intervention condition will additionally cover: 1) willingness to audio record therapy sessions; 2) client consent to audio record therapy sessions; 3) therapeutic rationale for various app features; and 4) research rationale for supplementing counselling with guided use of a well-being app. Following this, therapists will be invited to a condition-specific training session to reduce discussion between therapists and ensure that the enhanced intervention is delivered by therapists who are engaged and committed to using a well-being app alongside therapy. Therefore, training with therapists in the TAU group will only address research requirements (e.g., recruitment) and will focus on the research rationale for using an active control group and language use for recruitment.

To encourage integration of the app during counselling sessions and encourage discussion of client app activity, therapists in the enhanced intervention will be provided with computer tablets to use during therapy sessions to review and discuss app features with clients. During training, therapists will practice using the tablet to navigate through various app features and a range of role-play exercises will be used to mimic different therapy scenarios. The tablet will also be used to audio record therapy sessions and therapists will practice using the digital recording feature during training. The training session will be guided by a manual that will provide examples of how to address various scenarios as well as brief scripts to prompt therapists during training. Script examples

include: inviting students to book a research interview; describing the intervention in the first counselling session; confirming a participant's involvement in the study at the first counselling session; confirming permission to audio record; commencing app discussion during therapy sessions; reviewing app activity; inviting participants to use the computer tablet; and supporting participants who decide to withdraw from the trial.

Therapists will also be encouraged to make notes in their training manual to cater the examples to suit their therapeutic style. These practical sessions aim to ensure that therapists are confident with the technology requirements and feel at ease using the app in a therapeutic context. Therefore, therapists will be put into pairs to practice each example and will alternate between client and therapist roles. More specifically, when therapists are in the role of a hypothetical client they will be asked to mimic potentially challenging behaviours they have previously experienced during sessions with their own clients. These exercises aim to challenge therapists before they start using the app with clients. Therapists will also have the opportunity to role-play examples with the onsite researcher throughout the trial to build confidence and refresh training. At the end of the training session, therapists will complete a feedback form detailing their confidence in executing technical, administrative and therapeutic requirements of the trial. This information, combined with feedback from the focus group at the end of the trial, will be used to improve the manualised training for the definitive trial.

6.7 Technology acceptability

Despite the prevalence of technology being integrated into physical and mental health interventions, staff acceptability has been an ongoing issue and can hinder implementation (Luxton, McCann, Bush, Mishkind, & Reger, 2011; Waller & Gilbody, 2009). The current study aimed to reduce threats to staff acceptability by delivering a training programme to address various aspects of acceptability. For example, according to the technology acceptability model there are several factors that influence technology acceptability in healthcare professionals including: performance expectancy, effort expectancy, computer anxiety, computer self-efficacy, and computer attitude (Schaper & Pervan, 2007). For instance, according to Schaper and Pervan (2007), performance and effort expectancy refer to the perceived ability of the technology to assist with an individual's ability to fulfil their duty, and the ease with which it can be achieved.

In preparation for training in the current study, therapists used various app features daily for one week and were asked to consider how certain features would complement their therapeutic style. Therapists also shared their ideas in group training to inform other therapists with similar therapeutic models. Regarding effort of use, therapists were required to review a client's app usage for a few minutes every session as a minimum, but ultimately had the flexibility and responsibility to use the app as they deemed appropriate. Regarding computer anxiety and self-efficacy, in addition to the group training, therapists received ongoing one-to-one sessions with the researcher (EB) who had a daily presence at the counselling service throughout the duration of the trial. Finally, regarding attitude and therapist engagement, the intervention therapists were selected based on: 1) initial recommendations from the head of service; and 2) expressed interest from therapists.

6.8 Therapist effects

There has been conflicting evidence exploring the impact of therapist effects on trial outcomes and there are various methods for estimating therapist effects (Lutz, Leon, Martinovich, Lyons, & Stiles, 2007). Nonetheless, exploring therapist effects is important in implementation studies and for considering differences in treatment delivery across therapists. Due to the underpowered sample of the current feasibility trial, therapist effects for each of the quantitative outcomes will be estimated with intra-therapist correlations.

6.9 Counselling interventions

All participants will receive an active treatment in line with standard practice and will not be disadvantaged by participating in the trial. Participants will have access to the standard level of care at Sheffield UCS, which includes a wait period of typically 3-5 working days for the initial clinical assessment and 8-10 days between ongoing therapy sessions. This wait period varies throughout the year but the service agreement offers first contact within 10-days, and this is typically shorter than the NHS waiting times.

6.9.1 Counselling (TAU)

Up to 6 sessions of face-to-face counselling will be offered to participants in line with standard practice at Sheffield UCS. Sessions will be 50-minutes in length and the frequency of sessions will be determined through client-therapist discussions. If participants require more than 6 sessions, treatment will continue outside of the trial

and will be supported by the counselling centre. On such occasions, trial data will only be collected up to session 6.

6.9.2 Counselling supplemented with well-being app (enhanced intervention)

Up to 6 sessions of face-to-face counselling will be offered to participants in line with standard practice at the UCS. Sessions will be 50-minutes in length and the frequency of sessions will be determined through client-therapist discussions. As well as the standard level of care, counselling sessions will be supplemented with discussion and guided use of a well-being app to promote engagement within and between face-to-face sessions. Clients and therapists will have the opportunity to use the app on a computer tablet during counselling sessions to facilitate discussion and to aid the decision process for setting goals and reviewing client progress. Through these discussions, therapists will review client app activity and guide them through various app features to decide which activities would be beneficial to use between face-to-face sessions. App features may include: 1) daily behaviour tracking for mood, sleep, exercise, relationships, hygiene, water/caffeine/alcohol consumption, medication use, and time spent outside; 2) reflective thinking through guided CBT, thought journaling, mindfulness, and positive visualisation; 3) guided relaxation with breathing, meditation, and body scan exercises; 4) peer led support through anonymous online communities and private groups; and 5) setting/tracking short-term and long-term goals.

The app will provide daily prompts to encourage participants to log their mood/behaviour, but completion of various exercises relies on participants deciding when to use a feature, for example at the suggestion of their therapist. Therapists will also encourage participants to prepare for each face-to-face counselling session by reflecting on their diary entries and deciding on what they would like to address in the session. This reflective exercise may also occur at the start of each therapy session for participants who prefer to reflect on their activities with the support of their therapist. During face-to-face sessions, therapists will be encouraged to review app activity by asking participants to access their app account on the computer tablet, discuss a participant's reflections, and progressively adjust goals or exercises where appropriate.

6.9.3 Audio recording of sessions

Counselling sessions in the enhanced intervention will be audio-recorded, with participant consent, using the tablet to be more discrete than traditional recording equipment. Written consent for recording sessions will initially be sought during the

research interview when participants join the trial. However, verbal consent will also be sought by therapists at the start of each session to allow participants to opt-out of recording a particularly distressing counselling session. Sessions in the TAU condition will not be audio recorded to align with standard practice and because analysis is specific to discussing app activity, which is dependent on the enhanced intervention.

6.10 Primary feasibility measures

The yield of the feasibility trial is a series of specific primary and secondary outputs relating to a range of components that will inform a definitive trial. The primary outputs are: recruitment, treatment preference, randomisation acceptability, treatment satisfaction, and completion rate of follow-up measures. The secondary outputs are: baseline clinical outcomes, clinical change (across counselling and at 3-month and 6-month follow-up), app usage, intervention fidelity, client characteristics, therapeutic alliance and academic coping. Each of these primary and secondary outputs is described next.

6.10.1 Recruitment

The recruitment period for a definitive trial will be estimated from the current study by exploring the required time needed to reach 40 participants, whilst also considering therapist availability. Seasonal service demands will also be explored to distinguish peak service demand and to advise on the optimal time of year to implement a definitive trial. Service demand will be assessed by comparing weekly service registration throughout the duration of the trial.

6.10.2 Treatment preference

During the research interview and prior to treatment allocation, participants will be informed about the two available treatment conditions and will be asked to indicate their preferred condition. Participants will also provide a primary reason for their decision before being informed of their treatment allocation. Participants who choose a condition incongruent with their allocation will be asked if the outcome affects their decision to join the trial. This information will be used to inform potential bias from participants being allocated to their preferred condition.

6.10.3 Randomisation acceptability

Once participants state their treatment preference and are informed of their actual treatment allocation, they will be asked whether being randomised to that condition

increases the probability of them withdrawing from the study. This information, combined with the recruitment metrics, will be used to estimate the recruitment period and inform whether randomisation in a definitive trial would negatively impact on uptake.

6.10.4 Treatment satisfaction

Participant treatment satisfaction will be assessed with the 8-item Client Satisfaction Questionnaire (CSQ-8; Attkisson & Zwick, 1982), which will be emailed to participants the day after their last counselling session. CSQ-8 items refer to a client's overall service experience and are rated on a 4-point Likert scale (1 = '*quite dissatisfied*'; 5 = '*very satisfied*') whereby higher scores indicate greater satisfaction. Many counselling services report on client satisfaction to allow comparison with other services and to ensure that services respond to client feedback. Capturing client satisfaction will also allow comparisons between treatment conditions to explore whether the enhanced intervention had a positive or negative impact on a participant's service experience. A sub-sample of participants' service experiences will also be explored through telephone interviews after counselling completion. Finally, therapist satisfaction in the delivery of the enhanced intervention will be assessed through a focus group once all participants have completed counselling.

6.10.5 Completion rate of follow-up measures

Completion rates will be assessed through the number of participants providing complete data for the 3-month follow-up measures (from consent date), 6-month follow-up measures and telephone interviews. The telephone interviews will also be used to ask participants how to optimise the follow-up response rate and maintain contact. Together, this information will be used to estimate the expected response rate and inform the design of a definitive RCT.

6.11 Secondary feasibility measures

6.11.1 Baseline clinical assessment

Baseline levels of depression and anxiety will be determined with the PHQ-9 and GAD-7 to establish eligibility. The CCAPS-62 and CORE-10 will also be assessed on entry into the counselling service as part of routine practice and to identify baseline levels of psychological functioning and a range of student specific types of distress (e.g. academic distress and substance abuse). Baseline levels of resilience will also be measured at

baseline with the CD-RISC 10 alongside the PHQ-9 and GAD-7. Collective data from baseline clinical measures will be used to characterise the sample and allow comparison with previous help-seeking student samples.

6.11.2 Clinical change

Clinical change will be assessed across each counselling session (1-6) with the CCAPS-34 and CORE-10 as part of routine practice and to determine differences between the TAU and intervention groups. Resilience change will be assessed on completion of counselling by comparing the difference between baseline and immediately post-counselling scores on the CD-RISC 10. Longer-term clinical change on depression and anxiety will also be assessed with the PHQ-9 and GAD-7 at 3-months and 6-months after entering the trial to identify group trends for maintaining clinical change beyond counselling.

6.11.3 App usage

App usage during counselling sessions will be assessed through audio recordings to determine how various features are discussed between participants and therapists. The discussion of clients' app usage to monitor behaviours, thoughts, emotions and therapeutic exercises is an essential component of using feedback in therapy and in integrating the well-being app with counselling. Therefore, analysis of app discussion aims to identify dominant app features, inform potential moderators of therapeutic outcomes in the definitive trial, and evaluate intervention fidelity (discussed below). Analysis of app discussion will also consider the added gain of using the purchased app version over the free version, by categorising discussion by features associated with either version of the app.

A final exploration of app discussion will match app features with context specific benefits, client characteristics, and potential risk. Participant app usage between counselling sessions will be addressed in follow-up telephone interviews to inform the acceptability of using a well-being app alongside counselling, and exploring the timeframe for how long the well-being app was useful for participants. Participant usage of the app overtime will also be explored through app data (e.g. log in times, duration of time spent using each feature), but this will be dependent on the availability of data and on participant consent to access app data.

6.11.4 Intervention fidelity

Intervention fidelity will be assessed through counselling audio recordings, a focus group with therapists, and telephone interviews with participants. Counselling recordings will be anonymised during transcription and assessed by two reviewers, the onsite researcher (unblinded) and an independent blinded researcher, to permit analysis of inter-rater reliability. A checklist will be provided to score the transcript content which will include the following themes, separately for therapists and participants: 1) number of times app discussed; 2) duration of app discussion; 3) whether the tablet was used to view app activity; 4) whether there was reason to adjust app usage; 5) whether different app features were advised; and 6) whether there was a missed opportunity to discuss an app feature. Audio recordings will also be assessed against the BACP UCC competency framework to determine clinical competency and to develop the framework for the definitive trial. Finally, intervention fidelity will be assessed in the therapist focus group and participant interviews to explore challenges of integrating the app with counselling and to provide potential solutions.

6.11.5 Client characteristics

Client characteristics will be assessed collectively from: 1) intake demographic data; 2) therapist notes from the initial clinical assessment; 3) therapist session notes; and 4) participant interviews. Combined, this information will be used to develop a client checklist and brief clinical guide to aid decision making on client appropriateness for using a well-being app. This guide is anticipated to inform the inclusion criteria for the definitive trial and will be shared with other UK UCSs interested in offering well-being apps to their students.

6.11.6 Therapeutic alliance

Therapeutic alliance will be assessed through the Working Alliance Inventory-Short Form (Hatcher & Gillaspy, 2006) at the end of session 3 of counselling. The WAI is a 12-item self-report measure completed separately by the therapist and their client. Items refer to current views on the therapist/client and are rated on a 5-point Likert scale (1 = '*strongly disagree*'; 5 = '*strongly agree*') whereby higher scores indicate stronger therapeutic alliance. Items also provide scores on three distinct components of therapeutic alliance including: 1) agreement of therapy tasks; 2) agreement of therapeutic goals and; 3) presence of an affective bond between clients and therapists. These therapeutic factors will be compared across the enhanced intervention and TAU

conditions to explore differences in therapeutic alliance and inform potential mediators of clinical outcomes to be tested in a definitive trial.

6.11.7 Academic coping

To complement the academic distress measure on the CCAPS (Locke et al., 2011), participants will be asked about their ability to cope academically during follow-up telephone interviews. During the interviews, participants will be asked whether their mental health has affected their studies (or vice versa) and whether they believe that counselling has contributed to their ability to cope academically. These findings will be used to explore the potential contribution UCSs have on academic coping, and will inform outcome assessment for a definitive trial.

6.12 Managing risk and adverse events

All stages of the feasibility trial will take place at the UCS and participants will have immediate access to professional mental health support. Therapists involved in the trial will also have access to professional mental health support through the duty therapist in line with standard practice. Efforts have been made to reduce risk in the current study by ensuring that the design, training, and delivery of interventions are informed by clinical judgement, and clinical competency is reinforced by the BACP competency framework and UCS clinical handbook. Furthermore, all decisions concerning participant allocation are informed by their assessing therapist (see allocation section). Therapist training will also address participant withdrawal and how to report risk. In either event, every individual involved with the trial (e.g., admin, clinical, and research), will be informed to report to the duty therapist allocated at the start of each day. The reporting of adverse events will be recorded through: 1) onsite researcher notes throughout trial; 2) therapist clinical notes from triage; 3) therapist notes from counselling; and 4) duty therapist clinical notes. In line with the service clinical handbook, adverse events will be reported to the duty therapist and recorded electronically on the service's secure clinical scheduling system.

6.13 Data management

Researcher EB will oversee all stages of the feasibility trial and will include the following responsibilities: 1) maintain primary contact with staff at the UCS; 2) deliver therapist training; 3) deliver research interview with participants; 4) administer and score PHQ-9 and GAD-7 to determine participant eligibility; 5) offer ongoing support to therapists by maintaining a physical presence at the UCS; 6) offer technical support of computer

tablets; and 7) handle trial data from paper and electronic sources. Given that allocation of students to either of the two treatment conditions will be made on the basis of clinical judgement rather than via randomisation, it was decided not to form a Data Monitoring and Ethics Committee. Moreover, a recent extension to the Consolidated Standards of Reporting Trials (CONSORT) statement for pilot and feasibility studies, suggests that randomisation is not necessary for feasibility trials as it depends on which component of randomisation the feasibility trial aims to explore (Eldridge et al., 2016). In addition, it states that a Data and Monitoring Ethics Committee (DMEC) is also not required. The current feasibility trial aims to explore the *acceptability* of randomisation and its potential impact on recruitment and dropout.

To promote data integrity, researcher EB will regularly update with the head of service at the participating trial centre as well as the research supervisors (MB & AM) for the feasibility trial. Methods of planned data management have been approved by the trial sponsor REC, and have been implemented to be predominantly electronic to avoid human error and optimise data security. Part of data management will require storing participant consent forms and documents from the research interview in a securely locked filing cabinet at the UCS. The filing cabinet will only be accessed by the researcher and the clinical team, if necessary. Therapy audio recordings from computer tablets will be immediately uploaded to an encrypted file (via UCS encrypted Wi-Fi) on the UCS computer system, and will not be stored on computer tablets. This process is automatic and will be triggered when the audio recording app is stopped. Only the researcher will have access to the encrypted folder and recordings will be anonymised upon transcription.

The remaining sources of clinical data (e.g., from questionnaires) will be administered online via unique survey links emailed to participants. Survey data will only be accessed through a secure account log-in that only the primary researcher will have access to. All data will be backed-up on an encrypted external hard drive, accessed only by the primary researcher. Data will be stored in a Microsoft Access database on two encrypted USBs handled by the researcher.

6.14 Statistical analyses

6.14.1 Quantitative analysis

Analyses will be predominantly descriptive to characterise the study population and outline various feasibility metrics including: recruitment rate, treatment preference, randomisation acceptability, treatment satisfaction, and completion at follow-up. Whilst the sample size is not powered to detect significant differences between the TAU and enhanced intervention groups, data will be used to summarise outcomes from both groups to reveal preliminary trends and inform the design of the pilot trial from which estimates of effect and sample sizes will be calculated. Group comparisons will also be made between the demographic and baseline clinical measures to characterise the groups when they enter the trial. Determining potential baseline differences between the groups will inform whether the allocation procedure, which was dependent on clinical judgement, unintentionally created differences between the groups. Establishing these differences, or lack thereof, will further inform the potential group differences in clinical outcomes at the end of the feasibility trial.

Outcome data will include the baseline prevalence and subsequent changes in depression (PHQ-9), anxiety (GAD-7), psychological distress (CORE-10), student-specific mental health concerns (CCAPS) and emotional resilience (CD-RISC 10). Group summaries will also compare levels of therapeutic alliance (WAI) and treatment satisfaction (CSQ) to inform preliminary differences across treatments. No interim analysis will be performed; analysis will commence after completion of the 6-month follow-up. The distribution, variance and skewness of data will be initially explored to determine whether data should be described with parametric or non-parametric methods. Parametric descriptive statistics will include: total score, mean, standard deviation, min, max and range. Non-parametric descriptive statistics will include: total score, median, confidence intervals and inter-quartile ranges. Quantitative analyses will be performed with SPSS statistical software (version 22.0).

It is anticipated that approximately 40 hours of therapy will be recorded, transcribed and analysed. The conservative estimation for recordings considers several factors including: 1) although participants will be offered up to 6 counselling sessions, the service's median number of attended sessions is 4; 2) participants (and therapists) may decide not to record a session where the participant is particularly distressed; 3) trial budget available to fund transcription; and 4) feasibility trials are not required to be powered to detect significant effects, but to provide sufficient preliminary indicators.

Whilst data from the therapy recordings is qualitative in nature, they will be analysed with 'quantitative' content analysis (Elo & Kyngäs, 2008) whereby sessions will be scored to indicate intervention fidelity and implementation success. These scores will be achieved by using a checklist developed from the training materials to rate the extent to which therapists delivered the new intervention (see section on intervention fidelity). To permit analysis of inter-rater reliability, a random sample of 15 therapy hours will be assessed by an independent researcher blind to the aims of the study.

6.14.2 Qualitative analysis

Several feasibility factors will be explored qualitatively through, therapist clinical notes, a therapist focus group, and participant exit interviews; to explore the feasibility, acceptability and potential implications of supplementing counselling with a well-being app. The clinical notes will be extracted from the sessional notes taken as part of routine practice, except therapists will additionally reflect on their experience of integrating the app and how the app fitted with their client/therapy style. These experiences will be explored in more detail at the end of the trial through a one-off therapist focus group. The participant exit interviews will take place once clients finish counselling and thus may occur throughout the trial depending on how early clients were recruited and how many counselling sessions they agreed to have with their therapist.

The aims of the exit interviews are threefold: 1) to capture clients' experiences of the new intervention (and indirectly inform intervention fidelity); 2) to distinguish areas of improvement for research design; and 3) to identify whether counselling contributed to their ability to cope at university. Data from the client interviews, therapist focus group and clinical notes will be analysed flexibly and explorative with thematic analysis to allow themes to emerge from the data and to allow comparisons across different data sources (Braun & Clarke, 2006). By exploring themes across various data sources, the current study aimed to provide a rounded and comprehensive account of: 1) how well the app was integrated into counselling (according to clients, therapists and researchers); and 2) the potential risks/benefits of integrating an app with counselling, if implementation is successful. Qualitative data will be analysed with NVivo (version 11).

6.15 Discussion

Using a mixed-methods approach incorporating quantitative and qualitative data, this study will address a range of factors concerning the feasibility of supplementing counselling with guided use of a well-being app for university students with anxiety or depression. Through this exploration, the primary feasibility outcome will determine whether it is possible to incorporate, review, and discuss participant app usage during face-to-face counselling sessions in a manner that is potentially beneficial to therapeutic outcomes. For this reason, the study design offers an active control to mimic standard practice and permit preliminary comparisons to be made with the enhanced intervention. By comparing the enhanced intervention with a condition mimicking standard treatment (TAU), this study will shed light on whether potential differences in group outcomes could be accountable by the addition of a well-being app alongside standard care. However, whilst this feasibility trial is not powered to detect significant differences between group outcomes, it will allow the identification of trends to inform the hypotheses for a definitive RCT. Furthermore, combined analysis on counselling recordings, interviews and a focus group on the enhance intervention will reveal possible treatment mechanisms which can then be assessed quantitatively in a fully powered trial.

A key goal of this trial is to explore the feasibility of the planned processes and document the issues that arise throughout the training, implementation, delivery and evaluation of research design and overall intervention. Therefore, this study focuses on demonstrating the feasibility of offering a new treatment option to university students, and to review the potential implications for improving therapeutic outcomes. To address the first requirement, primary feasibility metrics will record: recruitment rate, treatment preference, randomisation acceptability, treatment satisfaction and completion of follow-up measures. However, if the new intervention is shown to be feasible, it is also important to understand the potential risks, implications and mechanisms to be explored in a definitive trial. Therefore, the secondary feasibility metrics will address: app usage, intervention fidelity, therapeutic alliance, and a range of clinical outcome measures monitoring mental health symptoms specific to university students. With anxiety and depression as the two most prevalent mental health concerns in students, participant eligibility will be determined through two clinical diagnostic tools, PHQ-9 and GAD-7, used widely in psychological services.

The planned enhanced intervention combines the benefits of face-to-face counselling with the flexibility of guided self-help, for university students experiencing anxiety and depression. By combining two treatment options that are typically offered separately, the current study aims to address several challenges USCs experience. The most prominent challenges have been supporting a growing student population with short-term therapy that fits within the academic calendar. Through these challenges, UCSs have experienced increased waiting lists, higher rates of treatment dropout and more demand for support during evenings, weekends and university holidays. Therefore, by combining face-to-face counselling with guided self-help support and behavioural tracking tools on a mobile app, the current study aims to demonstrate a preliminary impact on engagement, dropout and therapeutic outcomes. Furthermore, by encouraging self-help tools between face-to-face sessions, the current study aims to offer ongoing support to students and optimise therapeutic time between clients and therapists. If this new treatment option is shown to be feasible, the current study has potential to encourage flexible working styles and enhance existing face-to-face time without necessarily requiring more therapy sessions. These opportunities, amongst improving training, will be the primary aims of a definitive RCT following a pilot trial to be planned beyond the current feasibility study.

6.16 Chapter summary

The feasibility trial aims to explore whether supplementing face-to-face counselling with guided use of a well-being mobile phone app is an acceptable, feasible and potentially helpful treatment option for university students experiencing levels of anxiety or depression. The concept and rationale for the feasibility trial has been informed by the findings discussed earlier in the thesis and the remaining chapters present the results that address primary and secondary feasibility metrics. In doing so, data will be compared across the two treatment groups receiving either counselling in line with standard practice (TAU) or counselling supplemented with guided use of a well-being app. Analysis of trial data will be reported across Chapters 7 to 9. Chapter 7 explores the quantitative data sources that address primary and secondary feasibility outcomes. Chapter 8 explores the remaining primary feasibility outcomes sourced from both qualitative and quantitative data sources. And Chapter 9 presents the final results from the trial with an emphasis on qualitative data analysis to address the remaining secondary feasibility outcomes.

Chapter 7: Primary and secondary outcomes from the CASELOAD feasibility trial: quantitative data from baseline to follow-up

7.1 Chapter overview

Following the trial design, methods, and training for the feasibility trial outlined in Chapter 6, the current chapter presents results from quantitative primary and secondary feasibility outcomes. Chapter 7 also reports on quantitative data on therapist demographics, client demographics, baseline clinical data, clinical change across counselling sessions, and clinical change at 3-months and 6-months follow-up. Combined, the current chapter addresses the following outcomes: 1) recruitment (e.g. therapists, clients, duration, and optimal time of year); 2) treatment preference (including randomisation acceptability and impact on withdrawal); 3) baseline data (e.g. demographics, clinical severity, and resilience); 4) clinical change (i.e. across counselling); 5) therapy outcomes (including number of counselling sessions, clinical change at follow-up, resilience at follow-up, and satisfaction); 6) completion rate of measures (i.e. to infer acceptability); and 7) therapeutic alliance.

7.2 Recruitment

7.2.1 Therapists

In December 2015, the counselling service had 8 therapists working regularly and a further 5 therapists that could be brought into the service to provide additional support during periods of high demand. To ensure that therapists would be working within the service for the duration of the trial, the 8 therapists working regularly in the service were invited to join the trial. To join the trial, therapists were required to be accredited by the British Association for Counselling and Psychotherapy (BACP). One of the eight regular therapists was awaiting accreditation and was therefore not eligible to take part. The remaining 7 therapists joined the trial (5 female) and 5 of which (4 female) volunteered to receive training to deliver the candidate intervention. The remaining 2 therapists (1 female) volunteered for the treatment as usual (TAU) condition only because it required less research involvement. The final number of therapists comprised 5 delivering the intervention condition, with 2 of which also delivering the TAU, and 2 therapists delivering the TAU condition. Two of the intervention therapists whom additionally supported the TAU condition, only delivered the TAU condition after they had delivered the intervention condition and had achieved the intervention numbers.

Table 7.1 provides a summary of therapists' client allocation recruited across conditions. The therapist ID was unique to the trial and was not linked in any way to their ID in the service.

Table 7.1. Summary of therapists' client allocation across the intervention and Treatment As Usual (TAU) conditions of a feasibility trial

Condition	Therapist	Client n
TAU	1	7
TAU	2	1
TAU	3	3
TAU	4	7
Total	*4*	*18*
Intervention	1	6
Intervention	2	6
Intervention	5	3
Intervention	6	3
Intervention	7	2
Total	*5*	*20*

7.2.2 Therapist demographics

Table 7.2 reports therapists' demographics across the trial conditions. Therapists in the TAU group were aged within a 10-year span from 43 to 53 whereas therapists in the intervention group were aged between 46 and 56. The exact ages have been withheld to enhance anonymity. On average, therapists in the TAU group had 18.75 years' experience (SD = 2.50, min = 15, max = 20) with 15.25 years' in the counselling service (SD = 4.99, min = 10, max = 20). Therapists in the intervention group had an average of 13.00 years' experience (SD = 5.70, min = 5, max = 20) with 6.00 years' experience in the counselling service (SD = 4.74, min = 1, max = 12).

7.2.3 Recruitment period

The total recruitment duration was 5-months, running February-June 2016, following therapist training in January 2016 (see Chapter 6). Recruitment was not active during the entire 5-months as the service was subject to restrictions from academic timetabling (e.g. Easter and summer break), staff contracts (e.g. breaks in contract for short-term therapists), and service demand that resulted in service closures, therapists with full caseloads, and many students returning to the service over new students registering for the first time (recruitment eligibility criteria).

Table 7.2. Summary demographic information from therapists delivering the intervention and Treatment As Usual (TAU) conditions of a feasibility trial

Condition	Gender	Psychotherapy type	Years' experience	Years in service	N
Intervention*	F	Person-centred	20	12	6
TAU	F	Humanistic	20	20	3
TAU	M	Psychoanalytic	20	19	7
Intervention*	F	Integrative	15	10	6
TAU*	F	Integrative	15	10	1
Intervention	M	Psychodynamic	10	3	2
Intervention	F	CBT	5	1	3
TAU*	F	Person-centred	20	12	7
Intervention	F	Humanistic	15	4	3

*Two therapists recruited for and delivered the intervention condition and then the TAU condition once the number of intervention clients had been achieved (see Chapter 6). To protect the anonymity of the therapists and their experiences discussed in the focus group, the therapist ID's have been redacted from this table and the order of presentation has been randomised to prevent potential linking between the data and therapists' characteristics.

Recruitment ended at 5-months with 38 participants (Intervention group = 20; TAU = 18) rather than when the recruitment goal of 40 participants was because the trial entered the academic summer break when students typically leave university. Therefore, attention focused on collecting follow-up measures and conducting exit interviews with existing participants. Recruitment aimed to simulate the natural demands from the service to optimise implementation and reduce service disruption. Therefore, rather than protecting counselling slots for trial participants to enhance recruitment, participants were recruited into the trial when therapists had available slots. Similarly, the time between sessions was also dependent on therapist availability as it would in routine practice. Hence, the trial did not impose any additional demands on the delivery of the service other than the use of digital technology within the intervention sessions.

7.2.4 Optimal recruitment

To identify peak registration periods that could optimise recruitment in future trials, weekly student registration at the counselling service was collected for the academic

year 2016/17. Inspection of Figure 7.1 shows that the first week of the autumn term (start of the academic year) was the busiest week for registration, which then substantially reduced leading up to the Christmas vacation. The end of the autumn semester and the start of the summer semester mark two further peaks, but registration reduced leading to the Easter vacation and remains low for the rest of the year. Inspection of Figure 7.2 shows that at the semester level the autumn semester is the busiest time of year for student registrations to the counselling service, which marks the start of the academic year.

7.3 Treatment preference and randomisation acceptability

First, students were provided information on the conditions in the trial and then they were informed on the condition they had been allocated to. Students were then asked whether, had they been randomised to the opposite condition, it would have increased their chances of withdrawing from the trial. Eleven of the 18 TAU participants preferred their allocated condition because it required less work than the intervention, whereas 6 participants preferred the intervention because it offered additional support (Table 7.3). Only 1 participant allocated to the intervention group preferred the TAU condition for requiring less input, but the remaining 19 participants preferred the intervention. Despite their treatment preference, all except one participant would still have joined the trial if they had been randomised to the alternative condition. One participant in the intervention group claimed they would likely have withdrawn if allocated to the TAU group as they were specifically interested in using the app alongside counselling.

7.4 Baseline data

7.4.1 Client demographic data

Forty-three participants were initially recruited by therapists and attended the research consent session to determine eligibility (See Figure 7.3 for participant flow diagram). Two participants, both female, were excluded because one scored < 10 on both PHQ-9 and GAD-7 measures, and another participant had been referred for online self-help instead of counselling[26]. A further two participants left the university after the initial service assessment and were excluded from the trial.

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[26] This participant had been wrongly invited into the trial by a therapist in the TAU group that was unclear on the trial conditions and assumed the app group was instead of counselling. Following this the therapist was re-informed of the trial conditions and a wider staff meeting was held to clarify recruitment with other therapists.

Figure 7.1. Average weekly student registration for counselling during 2016-17 at a service embedded in a university participating in a feasibility trial
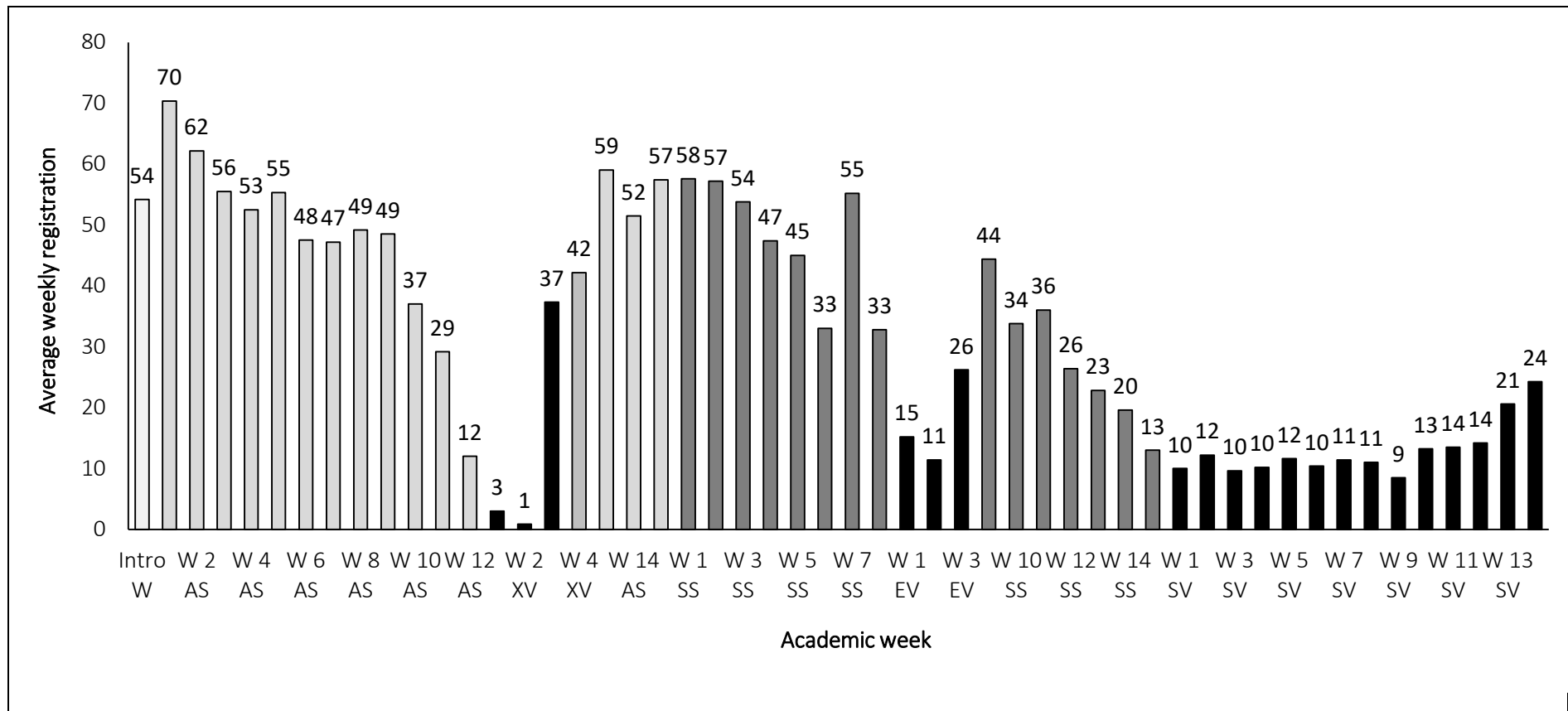
AS = Autumn Semester (light grey); XV = Christmas Vacation (black); SS = Summer Semester (dark grey); EV = Easter Vacation (black); SV = Summer Vacation (black)

Figure 7.2. Weekly student registration for embedded counselling across the academic year 2014/15 and split by semester with lines of best fit
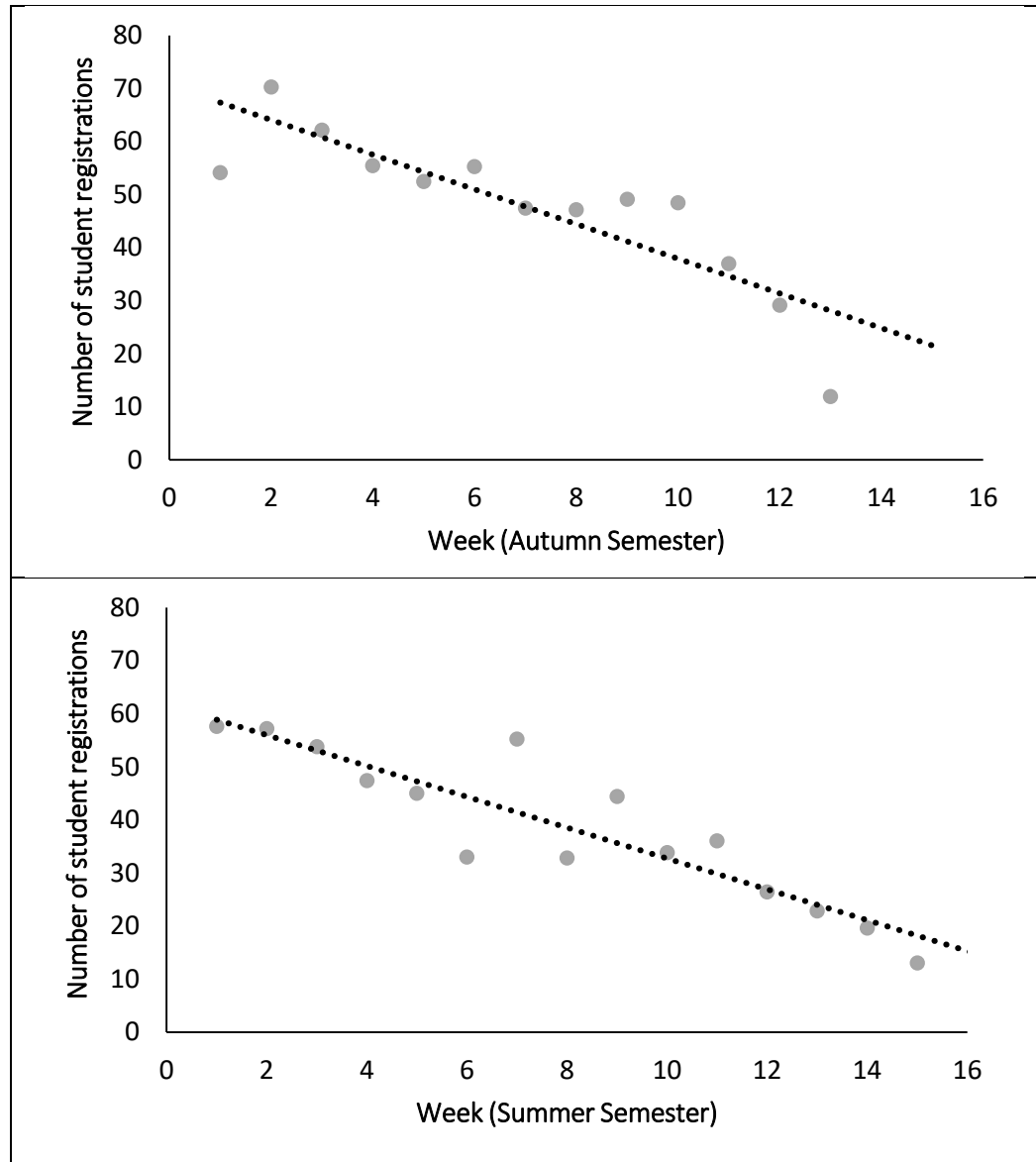
Of the remaining 38 participants, 20 were allocated to the intervention group (10 female, 56%) and 18 were allocated to the TAU group (12 female, 60%; see Chapter 6 for allocation procedure). The average age of the TAU group was 23 years (SD = 4.11, min = 19, max = 32) and the intervention group was younger with a mean age of 21 years (SD = 3.24, min = 19, max = 35). Of the total sample, 30 (78.9%) were undergraduate, 8 were postgraduate (taught = 3; research = 5), 30 were home/EU students and 8 were international students. Participants studied in the following faculties: arts and humanities (n = 6, 15.8%); engineering (n = 9, 23.7%); medicine, health or dentistry (n = 3, 7.9%); science (n = 10, 26.3%); and social science (n = 10, 26.3%).

Table 7.3. Treatment preference, randomisation acceptability, and impact on withdrawal from participants from the intervention and Treatment As Usual (TAU) conditions of a feasibility trial

	Preference			Impact on withdrawal	
Group	TAU	Intervention	Either	Accept randomisation	Likely to withdraw
TAU (n = 18)	11	6	1	18	0
Intervention (n = 20)	1	10	9	19	1

7.4.2 Clinical measures

Upon entry into the counselling service, participants completed baseline measures of the CORE-10 (Barkham et al., 2013) and CCAPS-62 (Locke et al., 2011) as part of routine practice. To determine trial eligibility, participants also completed the PHQ-9 (Spitzer, Kroenke, & Williams, 1999) and GAD-7 (Spitzer, Kroenke, & Williams, 2006) to determine baseline levels of depression and anxiety. Finally, participants completed the CD-RISC (Connor & Davidson, 2003) to establish baseline levels of resilience (see Chapter 6 for detailed description of measures).

7.4.3 PHQ-9 and GAD-7

Inspection of Table 7.4 shows that the mean PHQ-9 and GAD-7 scores met moderate clinical criteria (≥ 10), the eligibility criteria. The TAU group scored higher than the intervention group for both PHQ-9 and GAD-7, but independent samples t-tests revealed that these differences were not significant (PHQ-9 $t(36) = 1.53$, $p = 0.135$; GAD-7 $t(36) = 0.82$, $p = 0.42$).

Figure 7.3. Participant flow diagram summarising the number of clients that were recruited for the CASELOAD feasibility trial, were eligible, participated at 3-month and 6-month follow-up phases, and participated in the exit telephone interviews
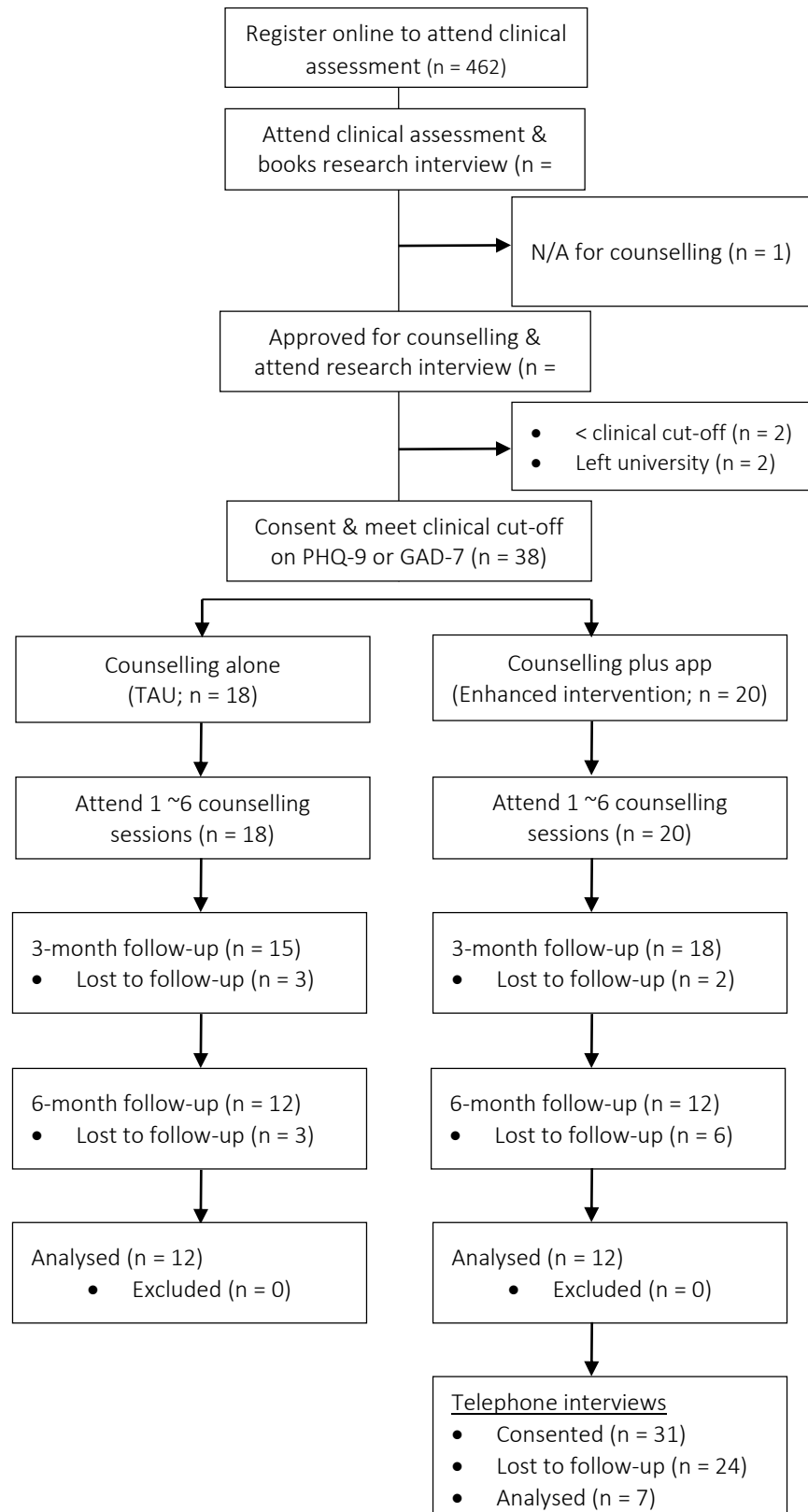
7.4.4 CORE-10 and CCAPS-DI

The group means for CORE-10 and CCAPS-DI met moderately severe clinical criteria, which is a boundary above what they scored for PHQ-9 and GAD-7 (Table 7.4). The group difference on CORE-10 was minimal and whilst the TAU group scored higher than the intervention group for the CCAPS distress index, an independent samples t-tests revealed that this too was not significant (t (34) = 1.11, p = 0.55). The remaining group differences between the CCAPS-62 subscales were also not significant (Depression: t (34) = 1.42, p = 0.1; GAD: t (34) = 1.58, p = 0.12; Social anxiety: t (34) = 1.84, p = 0.08; Academic distress: t (34) = 1.11, p = 0.17; Eating concerns: t (34) = 1.22, p = 0.23; Family distress: t (34) = 1.19, p = 0.55; Hostility: t (34) = 1.11, p = 0.85).

7.4.5 CD-RISC

Unlike clinical measures with boundaries to detect severity, the CD-RISC measure for resilience does not aim to infer clinical outcomes. However, sample scores from different populations have been provided by the CD-RISC manual (Connor, 2003) and are as follows: 19.6 = student counselling; 27.2 = undergraduate students; 30.1 = normative student sample; 31.8 = general community; 34.0 = primary care. Table 7.4 revealed that, at baseline, the TAU and intervention group means were lower than all samples provided in the CD-RISC manual, including the student counselling sample. The TAU group mean was higher than the intervention mean, but an independent samples t-test revealed no significant difference (t(36) = 0.01, p = 1.10).

7.4.6 CCAPS-62 subscales

Inspection of Table 7.4 and Figure 7.4 show that both the TAU and intervention groups met elevated clinical criteria for social anxiety, academic distress, depression, generalised anxiety, and hostility respectively. Similarly, both groups met low clinical criteria for eating concerns, family distress, and substance abuse. The TAU group means were higher than the intervention group across all CCAPS-62 subscales, but a series of independent t-tests found no significant differences (Depression t(36) = 1.44, p = 0.158; generalised anxiety t(36) = 1.58, p = 0.123; social anxiety t(36) = 1.84, p = 0.075; academic distress t(36) = 1.42, p = 0.165; eating concerns t(36) = 1.22, p = 0.232; family distress t(36) = 1.94, p = 0.847; hostility t(36) = 0.08, p = 0.941; substance abuse t(36) = 0.04, p = 0.668).

Table 7.4 Baseline scores on clinical measures on PHQ-9, GAD-7, CORE-10, CCAPS-DI and CD-RISC

across intervention and Treatment As Usual (TAU) groups from a feasibility trial

| Measure | Baseline clinical scores across groups | | | | | | | |
| | TAU | | | | Intervention | | | |
	N	Mean	SD	Min-Max	N	Mean	SD	Min-Max
PHQ-9	18	17.28	5.66	9-26	20	14.75	4.52	9-24
GAD-7	18	14.28	4.24	5-21	20	13.10	4.60	2-20
CD-RISC 10	18	18.67	4.56	7-27	20	18.05	5.34	7-28
CORE-10	11	22.64	6.44	13-32	17	23.18	5.41	15-34
CCAPS-62								
Depression	16	2.70	0.69	1.31-3.54	20	2.30	0.92	0.08-3.54
GAD	16	2.70	0.85	1.44-4.00	20	2.26	0.80	0.11-3.56
Social anxiety	16	3.00	0.59	1.86-3.86	20	2.53	0.90	0.00-3.86
Academic distress	16	2.79	0.98	1.40-4.00	20	2.34	0.93	0.60-3.40
Eating concerns	16	1.49	0.96	0.00-3.33	20	1.13	0.82	0.00-2.78
Family Distress	16	1.11	0.79	0.17-2.83	20	1.05	0.87	0.00-2.83
Hostility	16	1.57	0.93	0.29-2.86	20	1.59	0.95	0.14-3.57
Substance abuse	16	0.77	1.20	0.00-4.00	20	0.93	0.94	0.00-3.50
Distress Index	16	2.68	0.66	1.42-3.75	20	2.40	0.82	0.25-3.80

Missing data: CORE-10 TAU n = 7; intervention n = 3. Clinical boundaries: PHQ-9 and GAD-7 Clinical boundaries: 0-5 = mild, 6-10 = moderate, 11-15 = moderately severe, 16-20/21 = severe; CORE-10 clinical boundaries = 0-5 healthy, 5-10 = low, 10-15 = mild, 15-20 = moderate, 20-25 = moderately severe; CCAPS DI clinical boundaries[27] = 12.1 low, 21.5 = elevated.

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[27] CCAPS scores and their boundaries have been multiplied by 10 to allow comparison to other measures.

7.5 Clinical change across counselling sessions

7.5.1 CORE-10 and CCAPS-64 subscales

Inspection of Figure 7.5 shows that, except for CORE-10, both the TAU and intervention groups reduced their distress scores across counselling sessions for all CCAPS subscales. By session 6, both groups had reduced their scores on social anxiety, alcohol misuse and hostility to a large enough extent to leave the clinical boundary they met at session 1 (i.e. below the elevated or low clinical boundary). This was also true for the intervention group mean for academic distress and eating concerns. Inspection of the linear trend on Figure 7.5 suggests that overall the TAU group reduced their scores by a larger degree than the intervention group for all measures except academic distress; which reduced by the same extent for both groups.

Figure 7.4. Summary scores on baseline CCAPS-62 measures across intervention and Treatment As Usual (TAU) groups from a feasibility trial
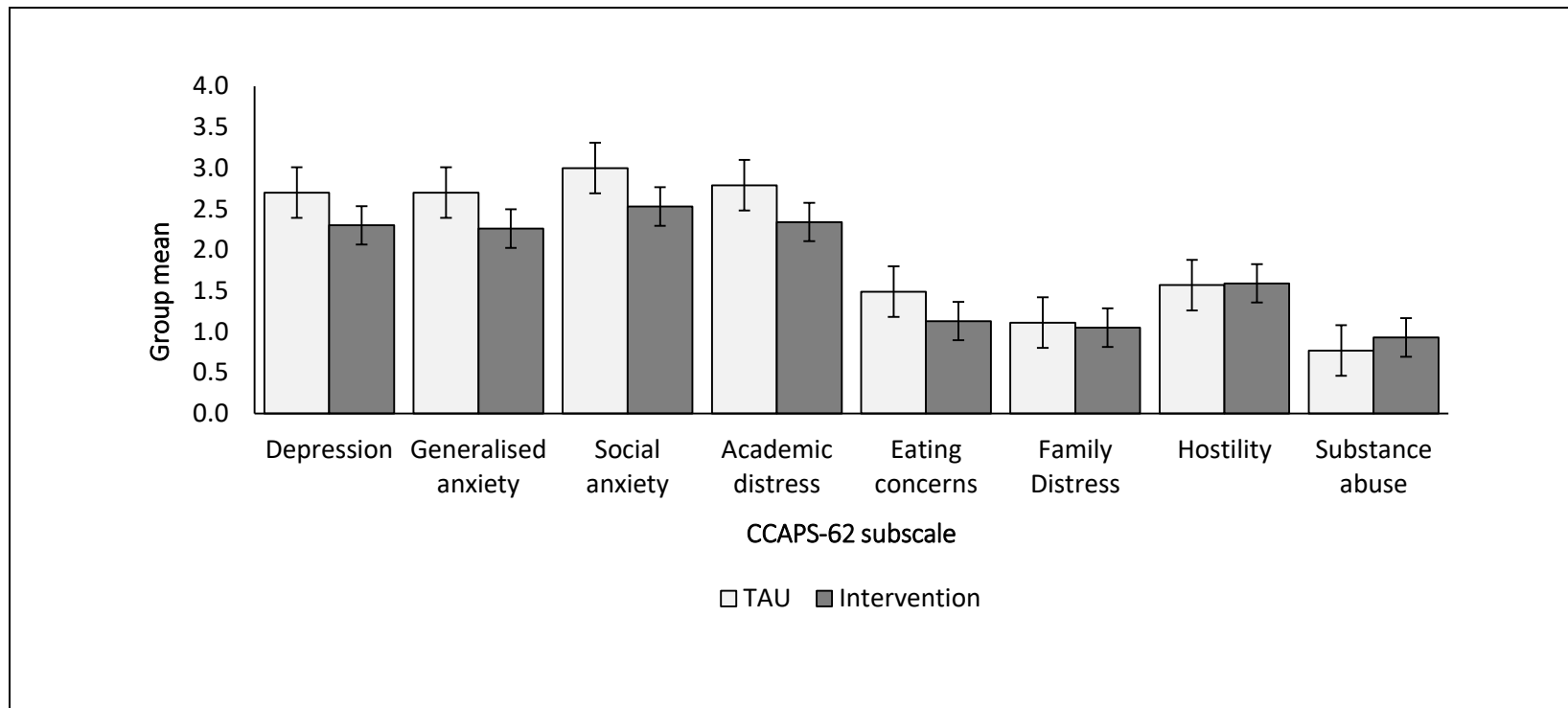
CCAPS clinical boundaries: *Depression* low-clinical = 1.09, elevated-clinical = 1.70; *Generalised anxiety* low-clinical = 1.25, elevated-clinical = 1.70; *Social anxiety* low-clinical = 1.72, elevated-clinical = 2.50; *Academic distress* low-clinical = 1.42, elevated-clinical = 2.40; *Eating concerns* low-clinical = 1.09, elevated-clinical = 1.80; *Family distress* low-clinical = 0.98, elevated-clinical = 1.83; *Hostility* low-clinical = 0.82, elevated-clinical = 1.43; *Substance abuse* low-clinical = 0.70, elevated-clinical = 1.40.

Figure 7.5. Change scores for CORE-10 and CCAPS DI across therapy sessions 1-6 for participants from the intervention and Treatment As Usual (TAU) groups of a feasibility trial, split by CCAPS subscale

Figure 7.5. (cont'd) Change scores for CORE-10 and CCAPS DI across therapy sessions 1-6 for participants from the intervention and Treatment As Usual (TAU) groups of a feasibility trial, split by CCAPS subscale

Figure 7.5. (cont'd) Change scores for CORE-10 and CCAPS DI across therapy sessions 1-6 for participants from the intervention and Treatment As Usual (TAU) groups of a feasibility trial, split by CCAPS subscale

Figure 7.5. (cont'd) Change scores for CORE-10 and CCAPS DI across therapy sessions 1-6 for participants from the intervention and Treatment As Usual (TAU) groups of a feasibility trial, split by CCAPS subscale

CCAPS-34 Eating Concerns (n = 38)[1]

CCAPS-34 Hostility (n = 38)[2]

Figure 7.5. (cont'd) Change scores for CORE-10 and CCAPS DI across therapy sessions 1-6 for participants from the intervention and Treatment As Usual (TAU) groups of a feasibility trial, split by CCAPS subscale

CCAPS-34 Alcohol Misuse (n = 38)[2]

[1]Indicates one group mean which dropped below the clinical boundary
[2]Indiates two group means which dropped below the clinical boundary

7.6 Therapy outcomes and follow-up

7.6.1 Number of counselling sessions

Inspection of Table 7.5 shows that participants in the intervention group on average received 5 counselling sessions and TAU participants received 4. All participants received a minimum of 2 counselling sessions (not including the initial assessment) and continued to receive up to 6 counselling sessions. Two clients continued beyond 6 sessions and in total received 9-10 counselling sessions[28]. Two clients in the TAU condition changed therapists after receiving 2-3 sessions and re-registered with therapists[29] to receive a further 4-6 counselling sessions. Of the two TAU clients that changed therapists, one client was allocated to another therapist within the TAU condition of the trial (based on availability/chance) and remained in the trial. Data from the clients' first 2 counselling sessions (with the first therapist) remained within analysis and data from a further 4 counselling sessions (with the second therapist) were also

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[28]One participant in each group continued beyond 6 counselling sessions, but data was only collected to session 6 (See Chapter 6 for methods)

[29] Queries after the trial revealed that re-referring after 2-3 sessions is common for the therapist involved. It is concluded that clients changed based on the therapist's decision rather than from a client request. Therefore, this change is an unlikely consequence of the trial.

included to account for a total of 6 counselling sessions that the client had consented[30].

The second TAU client that changed therapists was allocated to a therapist outside of

the trial (based on availability/chance) and no further data were collected. The average

time between counselling sessions was 16 days for the intervention group and 20 days

for the TAU group. Waiting times for both groups were lengthened by the Easter break.

Table 7.5 Summary of the number of counselling sessions and waiting period between
sessions for participants from the intervention and Treatment As Usual (TAU) groups of
a feasibility trial

	Number of counselling sessions				Waiting period between counselling sessions			
Condition	Mean	SD	Min	Max*	Mean	SD	Min	Max
TAU	4.73	1.62	2	9	19.50	16.43	4	75
Intervention	5.29	1.73	2	10	15.92	6.91	7	31

7.6.2 PHQ-9 and GAD-7 follow-up

Twenty-four participants (63%) completed the PHQ-9 and GAD-7 follow-up measures

(Intervention = 12; TAU = 12). Inspection of Figure 7.6 shows that participants in the

TAU group reduced their PHQ-9 scores by the 3-month follow-up. TAU participants

continued to reduce their PHQ-9 at the 6-month follow-up, but this was to a much less

extent than their reduction at 3-months. TAU participants also reduced their GAD-7

scores by the 3-month follow-up, but was less prominent than their reduction for PHQ-9

and their levels of anxiety started to increase by 6-months. Participants in the

intervention group demonstrated a reduction in their PHQ-9 scores at both 3-month

and 6-month follow-ups. This time their PHQ-9 scores continued to reduce at 6-months

and this pattern was repeated more prominently for GAD-7 scores.

7.6.3 Pre-post clinical change

Inspection of Table 7.6 shows that participants in both groups achieved more clinical

change at the 3-month follow-up compared to the 6-month follow-up for both PHQ-9

and GAD-7. On average, both groups continued to improve their PHQ-9 scores at the 6-

month follow-up, but only intervention participants continued to improve their GAD-7

scores at the 6-month phase. GAD-7 scores for TAU clients at the 6-month follow-up

increased, on average, from the 3-month follow-up. Across groups, intervention

participants reduced their scores more than TAU participants on both PHQ-9 and GAD-

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[30] The clients who changed therapists did not receive a second triage/assessment appointment
and instead entered their first counselling session with their second therapist

7, and this was most noticeable at the 6-month follow-up phase. Independent samples t-tests found the group difference for GAD-7 at the 6-month follow-up to be significant (GAD-7: (t(22) = 3.46, p = 0.002; PHQ-9: t(22) = 1.30, p = 0.207).

7.6.4 Resilience change scores at follow-up

A total of 22 participants (11 intervention) completed the CD-RISC upon completion of counselling. Inspection of Figure 7.7 shows that most participants had higher resilience scores after counselling irrespective of which group they were assigned to. Improvements in the intervention group were more consistent than the TAU group, with all intervention participants having higher resilience after counselling.

Figure 7.6. PHQ-9 and GAD-7 scores across participants from the intervention and Treatment As Usual (TAU) groups at 3-months and 6-months follow-up measures from a feasibility trial
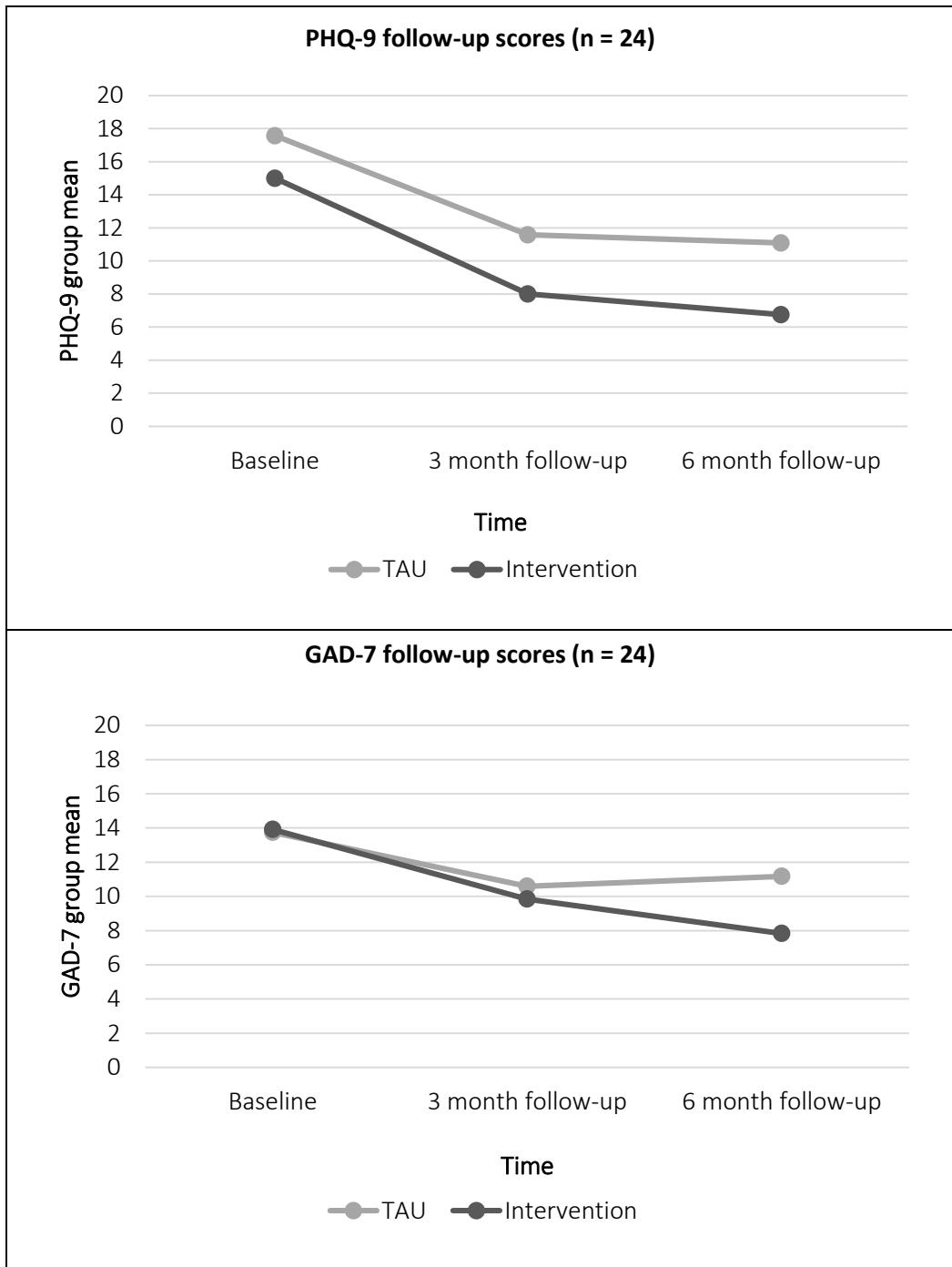
Table 7.6. Individual participant scores on PHQ-9 and GAD-7 at baseline, 3-month follow-up and 6-month follow-up measures, across the Treatment As Usual (TAU) and intervention conditions with reliable and clinically significant improvement indicators

	PHQ-9					GAD				
ID	Baseline	3 MFU	6 MFU	*Pre-3M*	*Pre-6M*	Baseline	3 MFU	6 MFU	*Pre-3M*	*Pre-6M*
TAU										
1011	22	18	16*	*4*	*6*	16	13	14	*3*	*2*
1012	10	4†	3†	*6*	*7*	5	3	4	*2*	*1*
1015	16	10*	10*	*6*	*6*	11	9	10	*2*	*1*
1017	13	6†	5†	*7*	*8*	10	1†	3†	*9*	*7*
1019	10	10	8	*0*	*2*	12	11	11	*1*	*1*
1026	23	20	20	*3*	*3*	14	15	16	*-1*	*-2*
1028	23	20	21	*3*	*2*	18	17	17	*1*	*1*
1031	25	10*	14*	*15*	*11*	19	13*	15	*6*	*4*
1034	26	14*	13*	*12*	*13*	19	15	15	*4*	*4*
1035	18	12*	12*	*6*	*6*	17	15	15	*2*	*2*
1036	12	8	5†	*4*	*7*	16	11*	10*	*5*	*6*
1041	13	7†	6	*6*	*7*	8	4	4	*4*	*4*
Mean	17.58	11.58	11.08	6.00	6.50	13.75	10.58	11.17	3.17	2.58
SD	5.99	5.38	5.96	4.05	3.29	4.56	5.28	5.06	2.66	2.50
Min	10	4	3	0	2	5	1	3	-1	-2
Max	26	20	21	15	13	19	17	17	9	7
*RI count	-	7	9	-	-	-	3	2	-	-
†RCSI count	-	3	4	-	-	-	1	1	-	-

Table 7.6. (cont'd) Individual participant scores on PHQ-9 and GAD-7 at baseline, 3-month follow-up and 6-month follow-up measures, across the Treatment As Usual (TAU) and intervention conditions with reliable and clinically significant improvement indicators

ID	PHQ-9					GAD-7				
	Baseline	3 MFU	6 MFU	*Pre-3M*	*Pre-6M*	Baseline	3 MFU	6 MFU	*Pre-3M*	*Pre-6M*
Intervention										
1002	23	6†	7†	*17*	*16*	17	11*	8*	*6*	*9*
1003	16	9†	5†	*7*	*11*	7	3	3	*4*	*4*
1004	15	6†	6†	*9*	*9*	20	18	15*	*2*	*5*
1005	12	10	8	*2*	*4*	18	11*	9*	*7*	*9*
1006	18	9†	8†	*9*	*10*	15	10*	10*	*5*	*5*
1008	10	6	7	*4*	*3*	8	5	5*	*3*	*3*
1010	11	9	9	*2*	*2*	12	15	5	*-3*	*7*
1013	12	7	5*	*5*	*7*	13	8*	7†	*5*	*6*
1014	24	10*	8*	*14*	*16*	19	12*	10†	*7*	*9*
1022	16	8†	5†	*8*	*11*	12	7†	6†	*5*	*6*
1023	13	8	7†	*5*	*6*	10	6	6	*4*	*4*
1027	10	8	6	*2*	*4*	16	12	10*	*4*	*6*
Mean	15.00	8.00	6.75	*7.00*	*8.25*	13.92	9.83	7.83	*4.08*	*6.08*
SD	4.71	1.48	1.36	*4.77*	*4.75*	4.27	4.28	3.21	*2.68*	*2.07*
Min	10	6	5	*2*	*2*	7	3	3	*-3*	*3*
Max	24	10	9	*17*	*16*	20	18	15	*7*	*9*
*RI count	-	*6*	*8*	-	-	-	*6*	*9*	-	-
†RCSI count	-	*5*	*6*	-	-	-	*1*	*3*	-	-

3 MFU: 3-month follow-up; 6 MFU: 6-month follow-up; Pre-3M: the difference between baseline and 3-month follow-up; Pre-6M: the difference between baseline and 6-month follow-up; RI: reliable improvement (*); RCSI: reliable and clinically significant improvement (†).

Reliable and clinically significant improvement (RCSI)

Reliable and Clinically Significant Improvement (RCSI) was calculated in line with the methods described by Delgadillo, McMillan, Lucock, Leach, & Gilbody (2014). According to these methods, clients must have had contact with the counselling service twice and met clinical membership on PHQ-9/GAD-7 prior to counselling (scored ≥10 or ≥8 on PHQ-9 or GAD-7 respectively). All clients in the feasibility trial met these criteria. Following treatment completion, clients must also be below the clinical threshold and have reduced their scores by 6 on PHQ-9 or by 5 on GAD-7. If clients *only* met these last criteria, then they have made reliable improvement. Inspection of Table 7.6 shows that 7 TAU clients met reliable change at 3-months on PHQ-9 and 9 clients met reliable change at 6-months. Fewer intervention clients met reliable change on PHQ-9, however more intervention clients met reliable change on GAD-7 at both 3-months and 6-months. More intervention clients also met RCSI compared to TAU clients on both PHQ-9 and GAD-7 for 3-month and 6-month follow-up phases. One client from each group met RCSI on GAD-7 at 3-months and this was maintained at 6-months for TAU clients. By contrast, 3 intervention clients met RCSI on GAD-7 at 6-months.

Figure 7.7. Pre-post CD-RISC resilience change scores for participants from the Treatment As Usual (TAU) and intervention groups of a feasibility trial
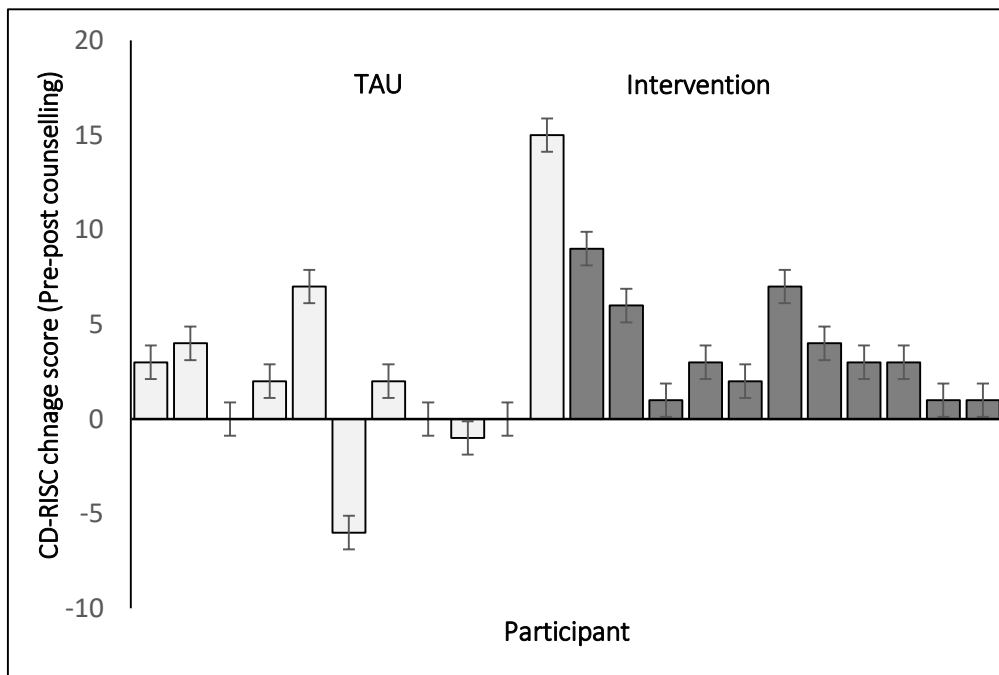
*Missing data: n = 16 spread equally across TAU and intervention conditions; likely due to entering the trial later in the academic year and subsequently entering the summer vacation during data collection

7.7 Treatment satisfaction

7.7.1 Client Satisfaction Questionnaire (CSQ-8)

A total of 20 participants (11 intervention) provided service feedback after completing counselling and the mean scores across groups were calculated for each item. Inspection of Figure 7.8 demonstrates that both groups felt the service had met their needs on every area questioned, with participants in the intervention group generally being more satisfied with the service than the TAU group. At the item level, participants rated the service higher for questions concerning the quality of the service (item 1), whether they would refer a friend (item 4), and whether they would return to the service if they experienced a similar problem (item 8). Participants in the intervention group favoured the service over the TAU group particularly for questions concerning the quality of the overall service and whether they received the type of service they wanted (item 2)[31].

Figure 7.8. Mean satisfaction scores from the intervention (n = 11) and Treatment As Usual (TAU) groups (n = 9) of a feasibility trial, according to the CSQ-8 administered at treatment completion
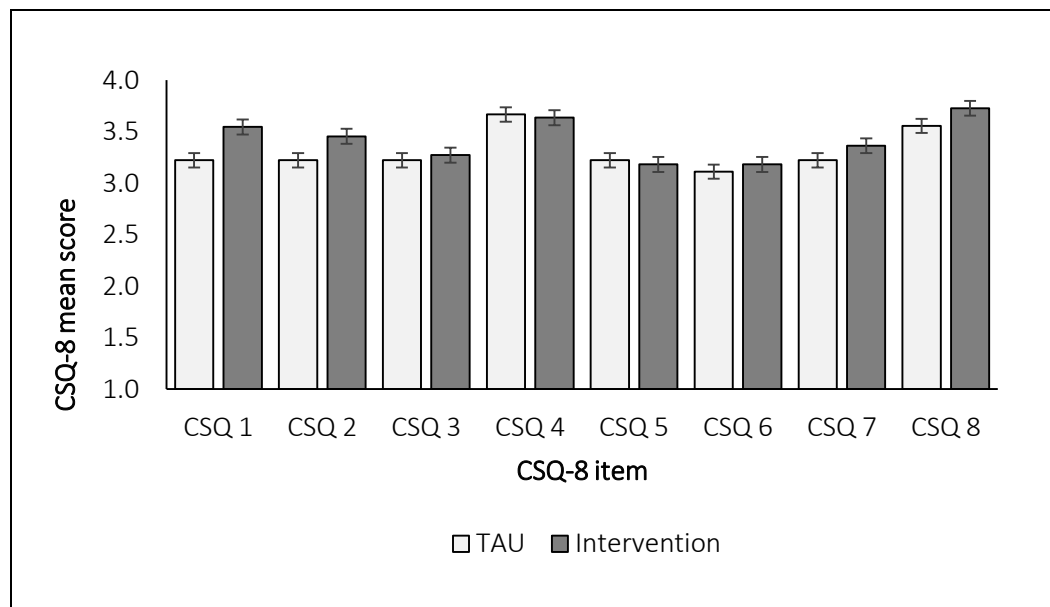
*CSQ 1: How would you rate the quality of the service you received?; CSQ 2: Did you get the kind of service you wanted?; CSQ 3: To what extent has your service met your needs; CSQ 4: If a friend were in need of similar help, would you recommend the service?; CSQ 5: How satisfied are you with the amount of help you received?; CSQ 6: Have the services you received helped you to deal more effectively with your problems?; CSQ 7: Overall, how satisfied are you with the service you received?; CSQ 8: If you were to seek help again, would you come back to the service?

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[31] Independent samples t-tests revealed no significant group differences for any of the CSQ items

7.8 Completion rate of follow-up measures

The completion rate of clinical measures employed throughout the trial was measured to inform the acceptability both types of measures used and the time at which they were administered. Table 7.7 summarises the number and percentage of complete data across the clinical measures and phases of the trial. Upon entry into the trial clients had complete data for PHQ-9, GAD-7 and CD-RISC, which were administered by EB during the consent session. Clients also had complete data for CCAPS, which is administered by receptionists upon entry into the counselling centre, as routine practice. Despite also being administered as routine practice, and alongside the CCAPS, only 53% of clients completed the CORE-10. A retrospective audit with the admin team revealed inconsistent information across receptionists whereby some individuals thought the CORE-10 was no longer going to be used by the service and did not load the form for the students they saw. Therefore, missing data were due to administration issues rather than clients refusing to complete the CORE-10. By the 3-month follow-up phase, 87% of clients had complete data for PHQ-9 and GAD-7, which were distributed as an online survey and emailed directly to clients.

Table 7.7. Completion rate of measures administered at baseline, 3-month and 6-month follow-up phases of a feasibility trial

Measure	Baseline	Session 3	3-months	End	6-months
PHQ-9	38 (100%)		33 (87%)	-	24 (63%)
GAD-7	38 (100%)		33 (87%)	-	24 (63%)
CD-RISC	38 (100%)		-	22 (58%)	-
CCAPS	38 (100%)		-	38 (100%)	-
CORE-10	20 (53%)		-	10 (26%)	-
WAI-S	-	16 (55%)*	-	8 (67%)*	-
CSQ-8	-		-	20 (53%)	-

*Only 29 clients stayed in counselling by session 3; and 12 of which stayed in counselling for session 6.

The second data collection phase occurred at the third counselling session and involved therapists administering the WAI-S for clients to complete alone in the waiting room before leaving the counselling service. Twenty-nine clients stayed in counselling by session 3 and 16 of which (55%) completed the WAI-S. All the uncompleted forms

were from therapists who only delivered the TAU condition, which wouldn't usually require administering the WAI-S. The third data collection phase occurred the week of clients' last counselling session when they were emailed a link to an online survey for CD-RISC and CSQ-8. Despite using the same method as administering PHQ-9 and GAD-7 at 3-months, fewer clients completed measures at the end of counselling. The fourth and final data collection phase administered online versions of the PHQ-9 and GAD-7 at 3-months and 6-months after entering the trial. Despite there being a longer period between data collection for 6-month measures compared to the week following counselling completion, a higher percentage of participants completed the follow-up measures compared to the service feedback forms.

7.9 Secondary feasibility metrics

7.9.1 Therapeutic alliance

The final section presents results from an online version of the WAI-S (see Chapter 6), which was completed separately by the client and therapist at the third counselling session. Therapists additionally administered the WAI-S at the end of counselling despite not being requested to and the data have been included. Inspection of Table 7.8 shows that TAU clients reported higher scores for task, bond, and overall alliance whereas intervention clients scored higher on task. Therapist reports of therapeutic alliance at session 3 were higher for the intervention group across all alliance measures. Within the intervention group, therapeutic alliance scores increased for all alliance factors by the end of therapy for both clients and therapists.

Table 7.8. Summary of therapeutic alliance factors across the Treatment As Usual (TAU) and intervention groups of a feasibility trial

at session 3 and end of therapy, split by Task, Goals, and Bond indicators of the WAI

| | | Client | | | | Therapist | | | |
| | | Total | Task | Goals | Bond | Total | Task | Goals | Bond |
	N*	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Session 3									
TAU	2	70 (8.49)	24 (2.83)	22 (5.66)	24 (1.15)	58 (1.73)	19 (1.15)	20 (1.41)	19 (1.41)
Intervention	14	67 (2.36)	22 (3.55)	23 (3.41)	23 (2.77)	64 (7.26)	20 (2.47)	21 (2.59)	22 (2.81)
End									
TAU	1	-	-	-	-	-	-	-	-
Intervention	7	73 (6.45)	24 (2.64)	24 (2.48)	25 (2.22)	67 (8.37)	22 (3.21)	22 (3.31)	23 (2.24)

*29 students remained in counselling for the third session. End of counselling could be any session after session 3.

7.9.2 Therapeutic alliance agreement

Levels of agreement between client and therapist scores on therapeutic alliance were calculated as the difference between scores for each of the alliance factors. Inspection of Figure 7.9 shows closer levels of agreement between intervention therapists and clients across all alliance factors (i.e. smaller bar demonstrates smaller difference), although the sample size is small and this should be interpreted with caution.

Figure 7.9. Level of agreement between clients' and therapists' scores on therapeutic alliance (according to the WAI) across Treatment As Usual (TAU) and intervention groups at counselling session 3 (n = 16)
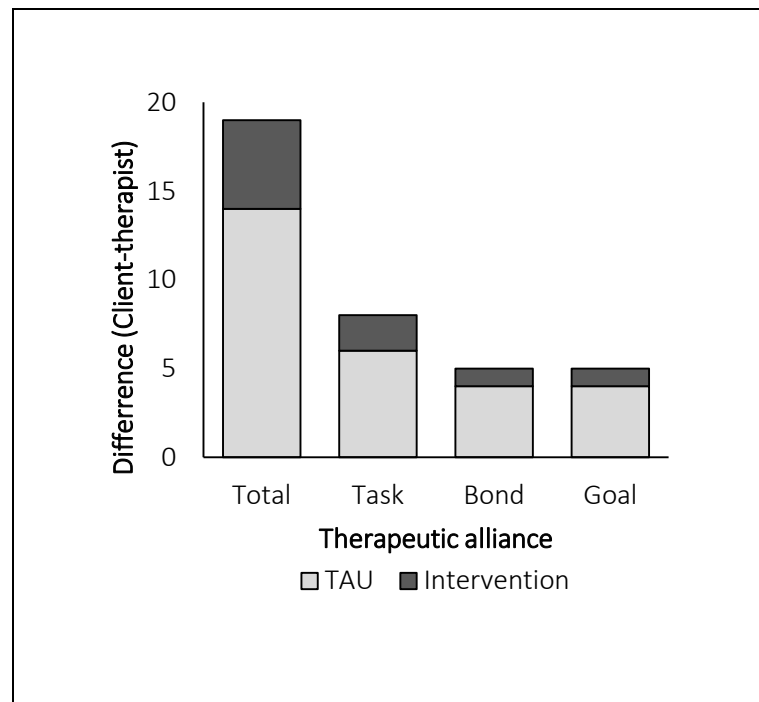
7.10 Discussion

The quantitative feasibility outcomes, both primary and secondary, addressed essential design elements that helped to inform how well the trial was implemented and whether the intervention was acceptable. Alongside feasibility outcomes, quantitative data from the feasibility trial also shed light on the characteristics of clients and therapists within an embedded counselling service and a range of challenges they face. Further complications were observed when research procedures were embedded into the counselling service, which primarily included issues with recruitment and administering research measures. Regarding recruitment, only 2 of the 8 trained therapists could recruit at the start of the trial and they become the most active in the trial. Minimal complications occurred beyond recruitment and the trial was delivered without

negatively impacting the service or denying non-participants access to counselling. Moreover, and despite early challenges, supplementing counselling with a well-being app was acceptable, was associated with improved resilience and showed a trend to maintain clinical improvements for anxiety.

An important recruitment factor to consider is the clinical cut-point used to determine client eligibility. Only 2 out of 38 participants scored below the moderate clinical criteria on both PHQ-9 and GAD-7, which led to exclusions. Despite setting a moderate clinical boundary (i.e. rather than severe), the overall sample scored on the cusp between moderate and severe clinical criteria suggesting that the inclusion criteria were appropriate and did not negatively impact on recruitment. These findings also suggest that the administration of clinical measures was appropriate. For instance, the consistency across clinical measures is reassuring given that they were administered quite differently, for pragmatic reasons. Measures were administered by therapists, researchers, and administrators at different points throughout the trial and in different formats. These applications were generally accepted and completed by clients until they left the service when the response rate dropped. This finding is not surprising. However, missing data were further impacted by administration issues experienced by therapists and by clients leaving for summer. Whilst losing students over the summer break was anticipated, the delay in recruitment delayed the follow-up phase, which subsequently entered the summer break. This is an important consideration for future trials in student services that could be addressed with a shorter and more intense recruitment phase with additional support for therapists recruiting clients.

The primary challenge for embedding a trial into practice is implementing the additional research requirements without negatively impacting the service. Randomisation was a key concern for this reason and identifying randomisation acceptability can help to alleviate disruption. Only one participant reported that they would withdraw if they had been randomised to the alternative condition and this was because of the additional support available in the intervention. Similarly, clients' treatment preference did not impact on their likelihood to withdraw as clients saw desirable components for both conditions. Whilst on the surface clients' preferences did not impact on participation, evidence suggests that measuring client preference is associated with higher treatment satisfaction, engagement, and clinical outcomes, which complements findings from the current trial (Lindheim, Bennet, Trentacosta, & McLear, 2014). The finding that clients reported desirable components in both

conditions highlights a benefit of using an active control group (i.e. TAU) rather than a waiting list. Research has also suggested that comparing an active treatment against a wait-list control group is not an accurate comparison when testing short-term psychotherapy for depression or social anxiety. This is because little clinical change is expected during a wait-list control group whereas participants can improve rapidly, when receiving short-term psychotherapy (Steinert, Stadter, Stark, & Leichenring, 2017).

Measuring client demographics are important for understanding the suitability and engagement potential of different interventions. On one level, clients in the trial resembled a typical student counselling sample, predominantly undergraduate, studying in their home country, and from science or social science faculties (e.g., see Russell, Thomson, & Rosenthal, 2008). However, students from engineering were the third most likely faculty to engage with the trial and male students comprised 42% of the total sample. These findings may broadly reflect improved help-seeking in these student groups, but they may also be influenced by using technology to supplement traditional counselling. This assumption is in line with the growth of technology used to enhance learning in HE, which aligns more closely with student expectations (HEFCE, 2009). Clients' symptom profiles also mimicked previous help-seeking samples (see Chapter 4) with elevated clinical severity for depression, anxiety, social anxiety, and academic distress. At baseline, TAU participants scored higher than the intervention group and demonstrated more clinical improvement during counselling despite waiting longer between sessions and receiving one less counselling session. The TAU group improvement was more surprising when follow-up measures revealed that anxiety began to rise 6-months after entering the trial. By contrast, intervention participants continued to reduce their anxiety beyond counselling and demonstrated more consistent improvements in resilience.

Therapists' acceptability and willingness to deliver the trial were equally important as client factors. This is true not only for the delivery of the intervention, but also for the administration of research measures which were additional to routine practice. When comparing therapists' demographic information across the TAU and intervention groups, there was minor difference in age. However, therapists' years' experience and time in the service were substantially different. Therapists in the TAU group had an average of 5 years' experience more than intervention therapists and had been in the counselling service for an additional 11 years. This finding is interesting given that TAU therapists self-selected their condition for requiring less research

involvement. This is also interesting because most missing data was introduced by TAU therapists and prior to the feasibility trial, the counselling service had not engaged in research. Together these findings suggest that the additional research requirements were further away from routine practice for TAU therapists that had been in the service for longer and the research rational was potentially less apparent. Nonetheless, the finding that therapists' age did not differ across the conditions suggests that the technology component of the intervention did not deter therapists from engaging with the trial. This is additionally promising given that one of the most active therapists in the trial had not used a smartphone, computer tablet, or mobile app before receiving training for the trial.

7.11 Chapter summary

Unanticipated difficulties were experienced during the recruitment phase that affected the trial timeline and response rate of follow-up measures. These findings highlight the complications of researching student mental health, which is subject to disruption from breaks in the academic year. These findings also highlight the challenges of embedding a trial into services engaging in research for the first time. The current Chapter also raised minor concerns for engaging with therapists, which will be explored in more detail in the therapist focus group presented in the next Chapter. Taken together, the initial quantitative findings raise considerations to be taken forward. At the surface level, supplementing counselling with a well-being app was shown to be acceptable by clients and by self-selected therapists open to using technology. During counselling, guided use of a well-being app helped to reduce clinical distress but it was not noticeably different from counselling alone. After counselling, guided use of a well-being app contributed to more consistent improvements in resilience, higher treatment satisfaction, closer agreement on therapeutic alliance and helped to reduce levels of anxiety beyond counselling.

Chapter 8: Qualitative exploration of primary feasibility metrics: clients' and therapists' experiences of using a well-being app alongside counselling

8.1 Chapter overview

Following the quantitative feasibility outcomes described in Chapter 7, the current Chapter aims to understand feasibility outcomes in more detail by exploring clients' and therapists' experiences of supplementing counselling with a well-being app. Chapter 7 identified elevated levels of treatment satisfaction from intervention participants and Chapter 8 aims to explore this in more detail with client exit interviews. Chapter 7 also identified many minor challenges with therapists engaging in the trial including; engaging with research, administering research measures, and the potential bias which led to clients with higher clinical severity being allocated to the TAU group. These challenges will be explored in more detail through a therapist focus group conducted at the end of the trial (see Chapter 6 for methods). Due to the qualitative nature of data sources, results have been presented with reference to the consolidated criteria for reporting qualitative research (COREQ; Tong, Sainsbury, & Craig, 2007).

8.2 Client satisfaction: exit interviews

8.2.1 COREQ domain 1: Research team and reflexivity

Client interviews were conducted and analysed by EB to fulfil the aims of a feasibility trial conducted during her PhD. At the time, EB was in the third and final year of doctoral research investigating student mental health. Previously EB completed a research master's degree and BSc in psychology, and had approximately 8 years of research experience working with patients, professionals, and volunteer participants. To reduce personal bias, client interviews were scheduled and analysed before knowing the outcome of the larger feasibility trial (i.e. before clinical outcome data or therapy recordings were analysed). The extent of contact between clients and EB was limited to the initial face-to-face consent session upon entry into the trial and more recent email contact to arrange the interviews. More critically, EB had no input into clients' treatment allocations or the delivery of treatment.

8.2.2 COREQ domain 2: Study design

The underlying theoretical framework used to conceptualise interview data was a general inductive approach of thematic analysis. According to Thomas (2006), inductive analysis provides a systematic process of summarising findings from qualitative data

that assists evaluation research and provides a framework of experiences from raw data. Therefore, the aim of the analysis was to conceptualise clients' experiences of receiving counselling supplemented with a well-being app, and their experience of participating in research. Purposive sampling was used to ensure that clients' collective experiences included counselling with all therapists involved in the trial as well as a range of demographic factors (e.g. degree faculty). Table 8.1 summaries the demographic information from clients who completed telephone interviews. Participants were aged within a 10-year age span from 18 to 28 years old and the exact ages have been withheld to enhance anonymity.

Of the 20 clients in the intervention group, 17 (85%) clients provided consent to be contacted for a follow-up telephone interview and one client left the university. Consenting clients were contacted via email the day following their last therapy session to schedule a telephone interview. Interviews were scheduled until information saturation was met which provided data from 7 interviews. Due to the nature of interviews conducted via telephone, clients self-selected their environment that was most commonly their place of residence.

Table 8.1. Demographic information of clients from the intervention condition of a feasibility trial who completed telephone interviews

ID	Gender	Level	Home status	Faculty	Psychotherapy style	Session count
1	F	UG	International	Arts/Humanities	CBT	6
2	F	PG	Home/EU	Medicine	CBT	5
3	M	PG	International	Science	Person-centred	6
4	M	UG	Home/EU	Arts/Humanities	Person-centred	4
5	F	PG	Home/EU	Social Science	Integrative	3
6	F	UG	International	Science	Integrative	4
7	M	UG	Home/EU	Science	Humanistic	3

Live notes and quotations were hand written by the researcher (EB) conducting the interview and more detailed notes were written immediately after interviews,

before being shared with clients to edit and approve quotations. It was decided not to audio record interviews to remain within the small scale (and budget) of a feasibility trial and because interview data was not the only source of client experiences. Rather, interviews aimed to enrich therapy recordings and to extend quantitative data on client satisfaction. For this purpose, interviews included a range of primary open-ended questions, which included follow-up questions for clarity.

The primary interview questions addressed the following areas: 1) how clients describe their overall experience; 2) issues experienced with counselling, therapists, or the trial; 3) whether clients felt as though they had benefitted or had been disadvantaged from counselling and/or participating in the trial; and 4) ideas for optimising client follow-up response rate. On average, interviews lasted 26 minutes (SD = 8.24, min = 18.05, max = 34.54) and provided a total data pool of 145 minutes.

8.2.3 COREQ domain 3: analysis and findings

Textual data was written, typed and entered into data management software NVivo (version 11) to be coded alongside interview notes from other clients. Nodes were created for each unique text extract following a bottom-up data driven approach and similar extracts were labelled with the same node. Text extracts were either assigned to an existing node or a new node was created to ensure all text extracts were assigned. The process of labelling extracts (i.e. assigning nodes) was iterative and each interview was re-read each time new nodes were created to ensure text extracts were labelled with the most appropriate node. Once all extracts had been assigned a node, similar nodes were clustered to form sub-themes until all nodes had been assigned to a sub-theme. Finally, similar sub-themes were clustered into themes, which were labelled to describe the semantic link between each sub-theme. The process of assigning nodes, sub-themes, and themes was performed by EB and checked by an independent researcher blind to the intentions of the study. For this process, the independent researcher (CN) checked each text extract assigned to a node and if necessary, either reallocated extracts to different nodes or created a new node.

Table 8.2. Example of coding process used to allocate text extracts to nodes for the analysis of interviews with clients from the intervention condition of a feasibility trial

Extract	Node	Sub-theme	Theme
"I thought it would be really awkward because of all the silences so I put it off for a while"	Feeling Awkward	Expectations	Help-seeking
"My mum warned me about the awkward silences"	Feeling Awkward	Expectations	Help-seeking
"I expected it would guide me through my problems and help me feel better again"	Guidance	Expectations	Help-seeking
"I was feeling very anxious about returning to uni after the summer break"	Anxiety	Reasons for seeking help	Help-seeking
"My anxiety became too much during exams"	Anxiety	Reasons for seeking help	Help-seeking

Changes were then discussed with EB and the final allocations are the result of inter-rater agreement. An example of the coding process has been provided in Table 8.2. At the time, CN was a postgraduate researcher from the US undertaking a research placement at the counselling service participating in the feasibility trial. The feasibility trial had ended at the time CN began her placement, and she was training to be a student mental health advisor within a master's degree in psychology. Researcher CN had no contact with the clients, therapists, or administrative staff involved in the feasibility trial and only had contact with EB when handling the transcripts. The iterative process of assigning nodes created 4 primary themes including; 1) therapy outcomes; 2) research outcomes; 3) help-seeking; and 4) service outcomes. Across the themes were a further 12 sub-themes and 200 text references. Weighted percentages were calculated from the number of text references for each theme and sub-theme and are summarised in Table 8.3.

Table 8.3. Themes, sub-themes, text references and weighted percentages from client interviews

Theme	Sub-theme	Respondents	References	Total	%
(1) Therapy Outcomes				85	43
	Experience of therapy	11	79		
	Impact on university	6	6		
(2) Research Outcomes				50	25
	Experience of app with therapy	11	26		
	Experience of research	8	16		
	Optimising follow-up	8	8		
(3) Help-seeking				39	20
	Expectations	10	13		
	Reasons for help-seeking	10	12		
	Hesitation	8	6		
	Encouragement	5	5		
	Discouragement	3	3		
(4) Service Outcomes				26	13
	Improvements	11	20		
	Positive	3	6		
Total	12	11	200		

8.3 Results

8.3.1 Theme 1: Therapy outcomes (43%)

Therapy outcomes refer to clients' general experiences of the therapeutic process with sub-themes encapsulating how counselling impacted on their experience of university. *Therapy outcomes* was the largest theme from client interviews and accounted for 43% of all text references. Strikingly, all clients described positive experiences with references to therapy helping to build confidence, improve clients' understanding of their mental health, improve their experience of university and wider lifestyle (e.g. Client 2: *"I felt more confident after each session"*; Client 5: *"counselling helped me realise that my issues stem from anxiety"*; Client 1: *"I've been able to put things into place so I know what to do if I feel this way again"*; and Client 7: *"It's definitely helped me with my home life too"*). Clients also described how counselling had impacted their ability to cope at university and their decision to continue with their studies (e.g. Client 3: *"I didn't want to come back after summer, I was very anxious, lost and confused"*; Client 5: *"I used to feel anxious about leaving home, but now uni feels like home too"*;

Client 4: *"I didn't want to talk in class, but counselling changed my mind"; and Client 7: "It's helped me to prepare for my year abroad by discussing things I was worried about"*). When describing their relationship with therapists, clients referred to how well they 'fitted' with their therapist and their personality (e.g. Client 2: *"It was more effective with the second* [therapist] *because our personalities matched"*; Client 1: *"It's determined by who the counsellor is and how they fit with you"*).

8.3.2 Theme 2: Research outcomes (25%)

Research outcomes refer to clients' experiences of using an app alongside counselling and the wider research project. All clients' experiences of using the app alongside counselling were positive and clients described the app as helping to: manage their thoughts away from therapy; feel engaged between sessions; be more active between sessions; have support outside counselling; and to have something tangible to take away from counselling (e.g. Client 3: *"It helped me to remember what I'd like to discuss during sessions"*; Client 7: *"It was good to see when I was getting angry so I could discuss triggers with my therapist"*; Client 5: *"the breathing exercises helped me through my anxiety"*; Client 2: *"It's like a checklist of how to look after myself on days when I'm low"*; and Client 4: *"the app is something I can take away from therapy"*). All clients wanted the app to be integrated into counselling more (e.g. Client 3: *"Perhaps some of the meditations could have been used during therapy"*; Client 7: *"I would have found it more helpful if the therapist asked to see what I'd logged on the app"*; Client 4: *"I didn't see any sense in logging my moods because there was no feedback in sessions"*). Only 2 references (1%) raised issues with the app and concerned the online community (e.g. Client 4: *"I found the suicide forum quite distressing and I didn't want to make things worse"*; and Client 1: *"the online community was full of negative emotions which wasn't helpful when you're depressed"*).

Clients' overall experiences of research were positive and they felt well informed with clear expectations (e.g. Client 7: *"I felt very well informed about the study and everything was explained clearly"*; Client 2: *"everything was made clear from the start"; and Client 5: "there was lots of notice when things would happen"*). Occasionally clients described design aspects which were particularly helpful such as the email reminders, mobile enabled surveys, measures with varied formats, options to take part in the interviews, and regular reminders (e.g. Client 4: *"The email reminders throughout the study were really convenient"*; Client 7: *"The links took you straight to the surveys*

which you could do on your phone"; and Client 6: *"It was good to have different options on what time of day we had the interview and whether it was via phone or in person"*).

8.3.3 Theme 3: Help-seeking (20%)

Help-seeking resembled clients' expectations of counselling, how their expectations influenced help-seeking, and their reasons for seeking help. As the trial eligibility required moderate clinical severity for anxiety or depression, it is not surprising that anxiety and depression were frequently described by clients. However, clients also described issues that overlapped with anxiety or depression including: panic attacks, loneliness/isolation, suicidal ideation, prescribed medication, and long-lasting mental ill-health diagnosed prior to university. When considering to seek help, clients referred to previous experiences and their expectations of therapy (e.g. Client 7: *"The first one was all about practical solutions to address how I was feeling whereas the second one didn't try to find a definitive cause which was more helpful";* and Client 2: *"because of my previous experience I already knew that you sit in a room and answer questions"*). The remaining clients that were new to counselling expected to discuss their concerns and receive guidance (e.g. Client 4: *"I assumed it was like what's portrayed on TV – sitting on chairs and answering questions"*; and Client 5: *"I expected my therapist would guide me through my problems and suggest techniques or resources based on our discussions"*).

Despite clients approaching the service having decided to seek help, one sub-theme referred to clients' experiences of the decision process. Many clients described uncertainty that they sought to validate from friends/family/tutors (e.g. Client 7: *"I was hesitant because I always thought counselling was a last resort"*). Having sought informal advice clients experienced either encouragement or discouragement to approach the counselling service (e.g. Client 2: *"I didn't want to come, but my boyfriend encouraged me"*; Client 3: *"my tutor suggested I might find counselling helpful"*; Client 2: *"my mum warned me that there's lots of awkward silences"*; and Client 4: *"my housemate said she'd felt disconnected between what she thought the problem was and what the therapist thought it was"*).

8.3.4 Theme 4: Service outcomes (13%)

Service outcomes refer to clients' wider experiences of the service, which included suggested improvements and client feedback. Nine of 20 clients suggested improvements referred to indicators of service demand, including: issues registering in the first instance; the waiting list; having sessions less frequent than desired; feeling

rushed towards the end of term; and limited availability (e.g. Client 6: *"It was difficult getting into the service because online registration was closed"*; Client 2: "*the waiting times need to be less"*; Client 7: *"there needs to be more continued support for long term issues rather than sessions 15 days apart"*; Client 5: *"the sessions felt rushed when we were coming to the end of term"*; and Client 1: *"there weren't many slots available"*). Clients also desired better accessibility to the service such as more support during exam periods (e.g. Client 1: *"It was just before exams when it was closed so I went home"*; Client 4: *"maybe links to NHS services to handle the load"*; Client 1: *"it would have been helpful to know why it was shut and some reassurance that it would open again"*; and Client 5: *"contact via phone as sometimes I haven't had access to the internet and I've missed out"*).

Clients also described positive experiences of the service and the therapeutic team (e.g. Client 5: *"The service is pretty flexible and it truly felt like a safe space"*; Client 1: *"The admin team were very helpful and understanding when I had to change my appointment"*; Client 4: *"The service has a good ethos"*, and Client 7: *"The service really does benefit students and it's definitely needed"*). The remaining comments were specific to clients' individual situations including wanting more options for international students and having more structure (e.g. Client 6: *"I felt a little restricted because English isn't my mother language and it was difficult to explain my feelings in a way the therapist would understand"*; Client 7: *"the sessions could have had more structure as I never knew when they were ending"*; and Client 3: *"maybe an overview of the types of therapy we can choose from"*).

8.3.5 Optimizing response to follow-up

Part of the exit interview asked clients for suggestions on optimizing the response to follow-up measures and participation in the exit interviews. Three ideas were suggested and repeated across clients, including: 1) using text messages to contact students; 2) scheduling a face-to-face interview after the last counselling session; and 3) replace interviews with an open online survey. For example, *"possibly text as well as email because some people don't receive emails to their phone"* (Client 2); *"people are always busy but they're always on their phones so they might be more likely to respond to a text message than an email"* (Client 5); *"schedule the interview after a counselling session so we're already there"* (Client 1); *"catch people whilst they're at the service and haven't left for summer"* (Client 6)*; "an online survey like the others might work as they're easy to do on the phone when you're doing something else"* (Client 3).

8.4 Therapist acceptability: focus group

In line with client interviews, the therapist focus group was facilitated and analysed by EB (see previous section for personal characteristics). As therapists had informed the design of the trial, attended research meetings, and received training by EB, they had regular contact throughout the trial. Despite the close interaction throughout the trial, it was made clear to therapists that the aim of the trial was not to promote the use of apps in counselling, but rather to investigate whether app features could enhance or deter students' experiences of counselling. More critically, researchers, therapists, and the overall trial had no investment or involvement with the app used in the trial; rather the app was publicly available and selected based on the teams' evaluation (see Chapter 6). The focus group was held in a staff meeting room at the counselling service; a location used throughout the trial for training and research meetings. With consent, the focus group was audio recorded using a computer tablet which therapists had frequently used when recording their counselling sessions.

It was decided to audio record the focus group to enable the facilitator to be more present in the discussion and ensure appropriate follow-up questions were asked for clarity. Written notes were also made during the focus group to record any immediate observations that emerged. Notes were written-up immediately after the focus group and the audio recording was transcribed verbatim. A general inductive approach to thematic analysis was used to analyse textual data from the focus group with the aim of summarising therapists' collective experiences of using an app alongside counselling. Purposive sampling was used to invite therapists involved in the trial to participate in the focus group. Five of the 7 therapists (0 from TAU only) attended the focus group that took place at the end of the trial when therapists had finished working with clients in counselling. Two therapists left the service before the focus group was scheduled[32]. Furthermore, due to external factors, including a break in staff contract and delayed accreditation from the BACP (eligibility criteria), two therapists received training at the start of the trial, but were unable to work with clients within the trial.

These therapists were included in the focus group and were asked to answer questions based on their experience of using the app in general. Primary questions discussed in the focus group included: 1) how therapists felt supplementing counselling with a well-being app; 2) whether specific app features were discussed during

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[32] The therapist was emailed and invited to complete a telephone interview as an alternative to the focus group, but they were unavailable over the entire summer period.

counselling more prominently than other features; 3) how therapists would describe client engagement across the TAU and intervention groups; 4) issues which arose from using the app; and 5) what training, if any, would they like to receive to support their use and knowledge of using well-being apps with students in counselling.

Using the same method as the client interviews, individual text references were assigned to nodes using a bottom-up data driven approach. Once each individual text extract had been assigned a node, similar nodes were grouped to form sub-themes which were further grouped to provide primary themes and are as follows: 1) App factors and usage; 2) research factors; 3) client characteristics; and 4) training needs and knowledge. Across the 4 themes, a further 8 sub-themes, 35 codes, and 214 text references were identified. Weighted percentages were calculated from the number of text references for each theme and sub-theme and are summarised in Table 8.4.

Table 8.4. Summary of themes, sub-themes, codes, and references from a focus group with therapists who participated in a feasibility trial

Theme	Sub-theme	Code	Respondents	References	Total	%
(1) App factors and usage					103	48
	Fit with client and therapy style				48	47
		App fit with client	5	8		
		App fit with therapy	5	7		
		Natural fit during conversation	5	6		
		Introducing the app at different stages	5	6		
		Interfering with therapy	1	1		
	App perception				24	23
		Practical solution	4	6		
		Short-term	3	7		
		Unguided self-help	2	4		
		Alternative to face-to-face	2	3		
		Separate from counselling	1	3		
	Facilitating therapy				23	22
		General	4	8		
		Linking moods with behaviours	4	8		
		How specific features helped	4	7		
		Raising awareness of mental health	3	4		
	App usage				8	8
		During counselling	3	3		
		Between sessions	3	5		
(2) Research factors					67	31
	Implementation				46	69
		Choice and control	5	13		
		Planning and preparation	4	4		
		Adjusting to change	4	4		

Table 8.4. (cont'd) Summary of themes, sub-themes, codes, and references from a focus group with therapists who participated in a feasibility trial

Theme	Sub-theme	Code	Respondents	References	Total	%
		Therapist engagement	5	14		
		Interference from external factors	5	5		
	Participating in research				14	21
		Changing practice and behaviour	3	12		
		Research being restrictive	1	2		
	Acceptability				9	13
		Therapist reflections	2	4		
		Tolerating the app and research study	2	3		
		Disbelief over app usefulness	2	2		
	Misunderstanding				8	12
		Managing client expectations	1	6		
		Concerns over app misuse	1	2		
(3) Client characteristics					20	9
		General	5	3		
		Motivation and readiness	5	6		
		Engagement	3	4		
		Anxiety and depression	2	3		
		Attachment	1	4		
(4) Training needs and knowledge					14	7
		Using apps alongside therapy	4	12		
		Assumptions of clients' technology competence	1	2		
Total	8	35	7	214		

8.4.1 Theme 1: App factors and usage (48%)

App factors include any discussion content that referenced the app, an app feature, or how the app was used. Sub-themes additionally describe therapists' perceptions as to how the app fitted with clients and therapy style; their overall perception of the app and its potential application; and how using the app may have facilitated (or hindered) therapy. Inspection of Table 8.4 demonstrates that integration of the app relied on how well it suited the client and therapy style. For example, therapists described how the app 'fitted' with clients (e.g. Therapist 3: *"it needed to fit with* [the client's] *personality"*; and Therapist 5: *"it no longer fitted with what they wanted"*). Therapists also described the app as complimenting or hindering their therapeutic style (e.g. Therapist 5: *"In some ways the apps fits into holism because you could be doing self-help and looking at their lives in different ways"*; and Therapist 2: *"because I'm person centred it's difficult to integrate an app into something that makes you work more directed"*). Similarly, if the app was viewed as not fitting with the therapy style then therapists viewed the app as interfering with the session (e.g. Therapist 5: "*it felt like it was getting in the way sometimes but that may have been how I was trying to incorporate it"*; and Therapist 4: *"it was almost like 'let's get the app out of the way and then I can get on with my normal session"*).

Despite these negative experiences, therapists agreed that it was important to bring in the app at an appropriate time (e.g. Therapist 1: *"It's very very fluid and it was useful to use the app only when a specific problem arose"*). Introducing the app at different stages was the largest sub-theme within the app usage theme, with therapists suggesting several time points which the app could be useful (e.g. Therapist 4: *"I wonder if it would be useful to students who don't quite want to engage with therapy… it might be enough to shift things and prepare them for a therapeutic experience";* Therapist 5: *"It might be something you introduce half-way into the therapy so you get a bit more insight"*; Therapist 2: *"when a problem arises say with their sleep, then you can use the app to target that specific issue"*; and Therapist 4: *"…use it in a way to maintain support at the end… when they start to look after themselves"*). Related to app fit with clients and therapy style, app perception and how it facilitated therapy was also prominent. In general, the app was perceived as a short-term practical solution that was separate from counselling and like unguided self-help. For example: *"if something was affecting their life which could be addressed with something practical"* (Therapist 2); and *"it naturally dropped off with some people"* (Therapist 3). In line with therapists perceiving

the app as a short-term solution, they decided not to work with clients they thought would need longer term support (e.g. Therapist 5: *"the app and the study in general would probably get in the way with someone who would need to be in therapy for longer"*; and Therapist 1: *"I probably didn't mention the app in triage with clients I thought need to be seen a bit longer"*).

Regarding facilitation, therapists described the app helping to link moods with behaviours (e.g. Therapist 1: *"the definite thing they all seemed to like was the mood tracking and it made a lot of difference in their awareness and linking their behaviours to their moods"*; and Therapist 3: *"the one function my clients did find useful was relating their feelings to their behaviours and simply monitoring how they feel and what they are doing each day"*). Similarly, therapists believed the app raised awareness of mental health, either from specific app features or using the app generally. For example, therapists believed that the app *"taught clients about self-responsibility with a little more activism going on"* (Therapist 1) and that *"some people who were quick to change probably changed much faster having done something like this"* (Therapist 3). Therapists also referenced the relaxation exercises, thought journal, and reminders to be helpful (e.g. Therapist 1: *"I preferred the relaxation side of it which actually worked when I tried it on myself"*; Therapist 4: *"unlike a paper diary the app is really discrete and it's always with you"*; and Therapist 3: *"I can see how being prompted to think about how you feel can be really helpful"*).

8.4.2 Theme 2: Research factors (31%)

Research factors include references to any component of the research process that included practical aspects of implementing research into standard practice and therapists' acceptability of participating in research. In line with feasibility work, a dominant sub-theme referred to factors of implementation and administration which heavily relied on therapist engagement, choice and control, and adjusting to change. Therapists described difficulties engaging with the research study including: memory difficulties, feeling uncomfortable, feeling protective, and reflecting that they could have engaged more (e.g. Therapist 4: *"I didn't ask clients if they were still the app because I didn't think to ask, but it would have been interesting to know if they used it"*; Therapist 1: *"It was difficult because if they said they'd been using the app then I didn't want to continue with 'what about this and what about this?'"*; Therapist 4: *"I've got this big mental thing about counselling… it's my therapy and I'm very protective of that"*; and Therapist 4: *"If I'd bought into the app in a different way and really committed to using it*

then it would have been different"). Occasionally, and often at the beginning of working with clients, therapists felt they may have engaged more (e.g. Therapist 1: *"I probably engaged more because you'd see the app slot in the diary and you've got to get things ready and it felt quite special"*).

Related to engagement, therapists described how choice and control were crucial factors of participating in research (e.g. Therapist 4: *"the choice element is really important than being forced to do something… I think I would have reacted strongly if I had to use the app in a specific way"*; Therapist 1: *"I generally didn't put forward more complex people because I didn't think they would have tolerated the app"*)*. Therapists also discussed adjusting to change when asked to audio record counselling sessions. Audio recording created difficulties early on where therapists described feeling *"uncomfortable"* (Therapist 4)*, "self-conscious"* (Therapist 1)*, "anxious"* (Therapist 2)*, "in a training position again"* (Therapist 3)*, and *"wondering if it's good enough for the researcher"* (Therapist 1). Despite early concerns, therapists generally adjusted to both audio recording and using the app with clients (e.g. Therapist 3: *"then I got my head around it and decided I'd talk about the app early"*; Therapist 1: *"sometimes I'd forgot we were recording"*; Therapist 3: *"I just got used to [recording sessions] and I forgot about it after a while"*). Despite the feasibility trial promoting a flexible choice-driven design that involved therapists from the planning stage, therapists described ways in which the trial changed their behaviour. For example: *"I extended triage sessions to talk about the app"* (Therapist 5)*; "I felt as though I had to talk about the app"* (Therapist 4); *"my anxiety around the recordings could have been a counter-transference thing"* (Therapist 1); *"it probably affected me more than it did the client"* (Therapist 1).

Two final and less prominent sub-themes refer to acceptability portrayed through language and misunderstandings of intended use with each accounting for 12-13% of content (8-9 comments). Misunderstandings were typically experienced when clients' expectations were not managed or when therapists had concerns over clients misusing the app. Managing client expectations were linked with therapist commitment and engagement. For example, one therapist described *"sitting down with the client early and explaining a bit about your therapy model and how the app will fit into sessions or how it might be used between sessions"* (Therapist 1) and generally described positive experiences with clients. By contrast, a second therapist described difficulties managing client expectations during recruitment such as *"I would have to work hard with the client to explain that we would still have face-to-face sessions together"* (Therapist 5) and

"each time I mentioned the app it felt like there was a block and like they thought I'd palm them off" (Therapist 5). Unfortunately, these difficulties combined with a break in the therapists' contract prevented them from working with any clients in the trial.

8.4.3 Theme 3: Client characteristics (9%)

Client characteristics encapsulate how therapists viewed that using the app alongside counselling relied on a set of client characteristics. Despite questions targeting client characteristics, only 9% (20 comments) of discussion addressed this topic. Therapists' main observations were that clients had to be ready and motivated to use the app (e.g. Therapist 1: *"some just needed a little bit of encouragement"*; Therapist 5: *"some clients might be ready to take on something like this"*; and Therapist 3: *"they need to be willing to take on more responsibility to help themselves"*). Related to client motivation, therapists believed that highly depressed clients would not benefit from using the app (e.g. Therapist 1: *"I think someone with heavy depression won't have the motivation to use the app"*; Therapist 2: *"it probably wouldn't make a difference to them"*. By contrast, one therapist described a client who was *"completely off the chart for depression yet he was happy to participate"* (Therapist 3). Discussion of clients with anxiety were equally prevalent to depression symptoms such as *"I had a batch of clients that were predominantly struggling with anxiety and academic stress"* (Therapist 5)*, and "...issues with performance anxiety, academic anxiety, and anxiety about being around other people"* (Therapist 2).

8.4.4 Theme 4: Training needs and knowledge (7%)

Training needs and knowledge includes therapists' suggestions on the type of training they would be willing to attend should they wish to use apps alongside counselling. Although the training needs were not extensively discussed, all therapists agreed with the suggestions raised which included *"a day's training about different apps available, different client groups and sometime to play with different apps – like we did for this training"* (Therapist 1). Regarding content, therapists agreed that a series of case studies could be useful (e.g. Therapist 3: *"it would be useful to have case studies on how different apps have been used and different examples of how we could use them"*; and Therapist 4: *"case studies would definitely be useful in knowing how it fits with practice and each therapy style"*). Therapists also acknowledged the importance of being aware of different apps available even they do not plan to use apps (e.g. Therapist 1: *"if you've got knowledge about apps then you can offer it to somebody who might benefit from it"*;

and Therapist 5: *"you might never use apps yourself but you are still able to offer that knowledge to clients"*). Comments concerning training needs typically led therapists to reflect on their experiences of the trial and concluded *"it's also about us* [as therapists] *checking for apps and being aware of what's available... if we know how apps work then we're more likely to use them with counselling"* (Therapist 1). Therapists also reflected that *"technology has changed therapy because you no longer go to a building and ask for help... it's still offering the same thing just in a different way";* (Therapist 5); and *"part of our responsibility as therapists is having knowledge on what is out there, because we're not the be all and end all",* (Therapist 1)*.*

8.5 Discussion

By separately exploring clients' and therapists' experiences of counselling, many overlapping and contrasting accounts have been raised. The areas of agreement suggested that clients and therapists broadly felt that counselling could be supported by a well-being app if it suited the needs of the client. The main area of disagreement was whether the app could be used independently from counselling or whether it could be integrated and used to supplement the therapeutic process. Client interviews suggested that whilst they were satisfied with their experience, they also wanted more guidance from therapists. By contrast, therapists viewed the app as being separate from counselling and could instead be used for self-help. Disagreement also arose when considering how the app could be used and how long it could be helpful. Therapists viewed the app as a short-term practical solution that could facilitate the therapeutic process if clients were ready to have more responsibility for their mental health. Clients' feedback indicated that they used the app more flexibly and perceived the app as something tangible to take away from counselling. Whether used within counselling or independently, clients and therapists agreed that using the app to track moods and behaviours could raise awareness of mental health and support clients between counselling sessions.

The initial intention to review clients' and therapists' experiences was to evaluate feasibility outcomes, namely whether the intervention and research design were acceptable. Regarding design, flexibility and choice were the largest themes linked to satisfaction in client and therapist feedback. These findings are not surprising given that a recent meta-regression of RCTs revealed higher levels of satisfaction, completion, and clinical outcomes from clients who were able to express their treatment preferences and contribute to discussions concerning their treatment (Lindhiem,

Bennett, Trentacosta, & McLear, 2014). In the current study, clients reported favourably on the varied forms of communication used throughout the trial and how their choice was considered throughout (e.g. audio recordings, interviews, app use). Therapists favoured their use of clinical judgement to determine when and how to use the app within counselling. Whilst this flexibility contributed to the acceptability of the trial, feedback from therapists indicated that their input also contributed to allocation bias.

Analysis of baseline clinical data in Chapter 7 found that TAU clients scored consistently higher than intervention clients on all clinical measures. This trend was explained in Chapter 8 when therapists reflected that the app was not appropriate for clients with higher clinical severity and were more likely to invite such clients into the TAU group or not at all. Whilst the therapists' conclusions may be valid, their choice of allocation prohibited this assumption from being tested. Similarly, therapists favoured their choice to audio record their counselling sessions, with an emphasis on not interfering with counselling. However, this also introduced bias from unrecorded counselling sessions. This finding is particularly concerning as research has demonstrated that therapists have a tendency to believe that their practice is superior to their peers and that their clients improve to a larger extent than they do according to clinical measures (Parker & Waller, 2015). Therefore, by therapists not recording certain counselling sessions from the intervention potentially introduces bias by only recording sessions with clients that therapists perceive to be doing well.

Recording therapy sessions was important in determining how the app was discussed during sessions and its potential impact on outcomes. Despite this importance, therapists and clients had the choice to record each session to avoid negatively impacting on recruitment. Similarly, insisting to record counselling would likely put off therapists given how heavily it was discussed in the focus group and how therapists reacted against the idea of being instructed to use the app in a specific way. Whilst audio recording counselling was a clear contention with therapists, several design elements were implemented to reduce discomfort including: 1) asking therapists separately if they were willing to audio record (i.e. rather than in a group) to provide opportunities to express concerns and to decline; 2) using researchers to collect written informed consent from clients to audio record counselling sessions; 3) using computer tablets to audio record to be more discrete than traditional devices; 4) providing training for therapists to practice and adjust to being recorded; and 5) supporting clients' and therapists' decisions to stop recording.

Therapists did report adjusting to recording counselling. However, it may also have contributed to the number of unrecorded sessions, as therapists who reported the most discomfort were the least likely to record counselling. This level of discomfort was not anticipated from therapists, yet it is interesting that issues about recording counselling were not raised by clients, of whom 95% provided consent to record sessions. Clients consistently referenced positive experiences of counselling, their therapist, and the wider service. Their message was clear: counselling had improved clients' abilities to cope at university and their overall wellbeing. Several references were made about how counselling had improved their confidence, their willingness to socialise with the academic culture, and their ability to prepare for events they previously found daunting. Counselling also helped clients to understand their thoughts, feelings and behaviours, which in turn helped clients to identify triggers and manage their wellbeing. The development of these skills also applied more broadly to their home life and their outlook about the future. These reflections demonstrate the varied impact counselling has on student mental health and how it serves a purpose beyond helping students during university.

When applied to the clinical findings from Chapter 7, clients' feedback also demonstrates how counselling helped to build resilience and reduce levels of clinical distress within the restrictions of short-term counselling. However, comparisons to clinical data also suggest that clients' positive experiences of counselling were achieved despite scoring on the cusp for moderate-severe clinical levels on depression, anxiety, social anxiety, and academic distress. This contrasting account likely contributes to the gradual rise in anxiety observed at 6-months and suggests that short-term counselling may be needed at several points during university. Given the importance of student retention within HE, both in terms of students achieving their academic potential and for the HE sector to thrive, institutions would benefit from offering alternative support routes for students to self-manage their anxiety and reduce the likelihood of returning to counselling. For instance, students with low psychological distress also exhibit high levels of resilience, feel connected to their academic institution and feel supported by their social groups (Pidgeon, Rowe, Stapleton, Magyar, & Lo, 2014). Therefore, by emphasizing the value of social connectedness, engagement in the academic culture and openness to challenge resilience, institutions can better support the psychological well-being of students which can, in turn, help embedded counselling services to prioritise demand for high-risk students.

One strategy of offering additional support to students and to encourage self-management of their psychological well-being is to raise awareness of the well-being apps currently available. The current work found that clients' use of a well-being app alongside counselling complimented their therapeutic experience and helped clients to engage between sessions. Clients provided examples of how the app helped them to process what they'd learned from counselling and helped them return to thoughts they were not ready to process. By receiving prompts, clients were encouraged to consider their wellbeing daily and be more mindful of how their moods contributed to their behaviour. Comparison to the baseline clinical measures in Chapter 7 further demonstrate that clients could benefit from using the app despite meeting elevated clinical severity on several areas of distress. This finding contrasts with therapists' views that clients would not benefit from the app if their mental health needs required anything more than low-intensity support.

By contrast clients liked that the app provided activities to do when they felt unable to care for themselves and felt reassured that they could use the app beyond counselling. Clients' feedback from using the app suggests that they often initiated app usage, reviewed their own progress, and came to their own conclusions. This likely contributed to their resilience scores after counselling, which had improved more consistently than clients in the TAU group. These combined findings are promising for both embedded counselling services and psychological services in the general population as there is growing interest by clients to use mobile apps to monitor psychological symptoms (Torous et al., 2014). However, findings from the current thesis demonstrate that whilst it is good that clients initiated their own app usage, they also wanted more guidance from therapists and could lose motivation when their progress had not been reviewed. This finding matches therapists' feedback that suggested they viewed the app as being the client's responsibility, but also raises concerns for intervention fidelity.

8.6 Chapter summary

Whilst Chapter 8 found agreement between clients and therapists viewing potential for a well-being app to supplement counselling, many disagreements were raised around whether the app needed to be guided or used in parallel to counselling. Disagreements from feedback also raised concerns over intervention fidelity, namely whether clients' app usage was reviewed and guided during counselling. The broad view from both accounts was that a well-being app could compliment the therapeutic process, but it is

not clear the extent to which it needs to be integrated into counselling to benefit clients. Clients' feedback on their experiences of using the app alongside counselling was positive and reference was made to how the app helped their engagement between sessions. However, feedback from clients emphasised their independent use of the app with limited feedback on how the app was used with their therapist. Similarly, feedback from therapists around app use within counselling was occasionally vague and few therapists provided examples of how their clients used the app, if at all. These inconsistencies will be explored in Chapter 9, which presents two analyses on data from counselling recordings.

Chapter 9: Mixed-methods findings from secondary feasibility outcomes: A detailed analysis of counselling content

9.1 Chapter overview

Having established the acceptability of using a well-being app alongside counselling, Chapter 9 explores the extent to which app usage was integrated into counselling and whether such usage contributed to therapeutic outcomes. Feedback from clients and therapists suggested that app usage was not necessarily reviewed at the level of the intended intervention, with therapists reviewing and guiding app usage each counselling session. To address this uncertainty, Chapter 9 presents results from two analyses applied to audio recordings from counselling. The first employs content analysis (Elo & Kyngäs, 2008) to evaluate intervention fidelity of supplementing counselling with guided use of a well-being app. This analysis aims to elucidate conflicting accounts raised in Chapter 8 and to identify the extent to which outcomes were influenced by the addition of app exercises. The second analysis adopts a broad approach with thematic analysis (Braun & Clarke, 2006) to conceptualise how the app was used alongside counselling. To comply with the reporting standards of qualitative research, results have been presented with reference to the consolidated criteria for reporting qualitative research (COREQ; Tong, Sainsbury, & Craig, 2007).

9.2 Counselling recordings

9.2.1 COREQ domain 1: Research team and reflexivity

Counselling sessions were delivered by therapists employed at the University of Sheffield counselling service, were accredited by the British Association for Counselling and Psychotherapy (BACP) and completed training developed for the purposes of the feasibility trial (see Chapter 6). Audio recordings were analysed by EB for the purposes of doctoral research (see Chapter 8 for personal characteristics). Whilst EB was not blind to the aims of the feasibility trial, analysis was first conducted on counselling transcripts (i.e. text data) that had been anonymised by the transcription company (See https://www.dictate2us.com/). To further reduce the risk of personal bias, counselling content was analysed before it had been linked to client or therapist data and before the outcomes of the trial had been accessed. Following the initial analysis on counselling transcripts, analysis was validated by listening to the audio recordings to improve clarity and ensure accuracy of the transcripts. The final stage of data handling included analysis

on a sub-sample of counselling transcripts (n = 12, 27%) by an independent researcher blind to the intentions of the feasibility trial (CN – see Chapter 8 for details).

9.2.2 COREQ domain 2: Study design

Two approaches were used to conceptualise counselling recordings. The first involved thematic analysis and the second included content analysis (Elo & Kyngäs, 2008). Thematic analysis was used to fulfil the aim of conceptualising counselling supplemented with guided use of a well-being app. By contrast, the aims of content analysis were to firstly determine the extent to which the app had been integrated into counselling (e.g. app discussion during counselling) to assess intervention fidelity, and secondly to identify potential differences between app use and outcomes of counselling. To assist content analysis, an app checklist was developed to allow each counselling session to be scored based on the level of app usage (see Appendix G1). Items within the checklist were developed to encapsulate the intervention description and included components of the therapist training delivered to inform the intervention. Items within the checklist were assigned scores that totalled 18 and are summarised in Table 9.1.

       Whilst 36 clients (95%) provided consent to audio record their counselling sessions, the decision to record was determined at each session by therapists and clients. Therefore, despite aiming to record all counselling sessions from the intervention group, therapists used convenience sampling to audio record counselling sessions. Regarding the counselling sessions that were not recorded, feedback from the therapist focus group (Chapter 8) suggests that therapist resistance, anxiety, protecting client vulnerability, and memory were the main reasons for not recording. Of the 20 clients in the intervention group, counselling recordings were collected for 11 clients (6 female, 55%) and provided a data pool of 45 hours (2702.4 minutes) of counselling. Inspection of Table 9.2 shows that counselling recordings captured clients that were predominantly British undergraduate students in their second or third year of HE. Students were aged within a 15-year age span from 20 to 35 and their exact ages have been withheld to enhance anonymity. Students were from a range of faculties, excluding medicine, sought help for a range of mental health concerns, and achieved a range of outcomes on the PHQ-9 and GAD-7.

Table 9.1. Summary of items, scores, and examples of app checklist used for content analysis of audio recordings from counselling supplemented with a well-being app in a feasibility trial

Item	Example	Score
Number of times the client raised app discussion	Client: *"I used the app actually"*	0-6
Number of times the therapist raised discussion	Therapist: *"I think there are a few meditations on the app"*	0-6
Whether app usage was reviewed	Therapist: *"How are you getting on with the relaxation exercises?"*	0-1
Whether app features were suggested in response to client feedback	Client: *"I've been using the thought journal thing but I don't' think I'm doing it right"*; Therapist: *"what makes you think that?"*	0-1
Number of app suggestions	Therapist: *"if you find the relaxation helpful then I'd like to encourage you to keep on using that and maybe use it in the day as well as at bedtime"*	0-3
Missed opportunity for discussing app usage in response to prompt from client	Client: *"I'm quite liking seeing how my moods change throughout the day"* Therapist: *"That's good then…"*	0-1*
	Total	18

*Reverse coded where 0 = Missed opportunity

Regarding environment, all counselling sessions (and audio recordings) took place in counselling rooms within the university counselling service. Computer tablets were used to audio record sessions and therapists either typed or recorded notes immediately after the session. Audio recordings were transcribed by an external company that anonymised recordings in the process of transcribing the tapes. EB analysed transcripts before validating accuracy against the original recordings. Therapists received anonymised transcripts from their own sessions to be used for supervision and training. However, transcripts were not shared with clients. On average, recordings lasted 54 minutes (SD = 6.18, min = 8.29, max = 64.02).

Table 9.2. Demographic information of clients who contributed to audio recordings of counselling supplemented with a well-being app in a feasibility trial

Gender	Nationality	Level	Year of study	Faculty	Reason for seeking help	PHQ-9 pre-post change	GAD-7 pre-post change
F	British	UG	3	Science	Low mood	-12	-8
M	British	UG	3	Social Science	Academic	-2	-3
F	British	UG	3	Science	Anxiety	-4	-15
F	British	UG	3	Arts and Humanities	Anxiety	-4	-9
F	British	UG	2	Arts and Humanities	Unsure	-6	-6
F	Asian	UG	2	Arts and Humanities	Anxiety	-21	-12
M	British	UG	2	Social Science	Anxiety	-2	-5
M	British	UG	2	Engineering	Anxiety	-5	-7
M	British	UG	2	Science	Day to day functioning	-10	-10
F	Asian	UG	1	Science	Anxiety	-20	-9
M	British	PG	1	Engineering	Romantic relationships	-	-
Mean						-8.6	-8.4
SD						7.04	3.47

9.2.3 COREQ domain 3: analysis and findings

Typed transcripts from counselling recordings were entered into data management software NVivo (version 11) and coded alongside other counselling transcripts. Nodes were assigned using the same method described for client interviews (see Chapter 8) which briefly used a bottom-up approach to label each unique text extract with a node to encapsulate the primary meaning portrayed in the extract. This process was repeated until all unique extracts had been allocated to the most appropriate node. Nodes were clustered to form sub-categories that were further grouped to form primary themes. The first version of nodes, sub-themes, and themes was created by EB and validated with CN. The final nodes were agreed by both EB and CN. For content analysis, a copy of the original transcripts was entered into NVivo and nodes were assigned based on the app checklist criteria summarised in Table 9.1.

App checklists were then manually completed (by EB) for each transcript and results were entered into a spreadsheet ready for comparison with researcher CN. Transcripts were selected to include a range of low, medium, and high scoring

transcripts (based on EB's scores), which also included transcripts from different therapists working with a range of clients. App scores from EB and CN were compared to identify potential differences that may cause issues for the scoring procedure. Table 9.3 compares the scores from EB and CN across each checklist item for each transcript.

9.2.4 Inter-rater reliability

A mixed sample of 11 transcripts (24.4%) was scored by CN blinded to the aims of the feasibility trial. Scores across raters EB and CN were inputted into SPSS (version 21) to calculate inter-rater reliability (Kappa). Inspection of Table 9.3 reports substantial to almost perfect agreement across raters with Kappa values in the range of 0.76-1.00 for checklist items (See Landis & Koch, 1977). The weakest agreement was for the overall transcript score, which was subject to the most variation, followed by the counts for when the client initiated app discussion. Perfect agreement was achieved for deciding whether therapists had reviewed clients' app usage and whether therapists had suggested app features in response to client feedback (both items scored yes/no). In total, there were 77 potential occasions for rater agreement (i.e. 7 checklist items across 11 transcripts) and 62 (80%) of which raters agreed. Comparing the average scores across raters across each checklist item, rater EB was more likely to allocate higher scores for the number of app features suggested and more likely to penalise scores for missed opportunities compared to rater CN. However, differences were minimal and raters scored similarly on all other checklist items.

9.3 Intervention fidelity

9.3.1 Scores from app checklists

Figure 9.1 presents the overall app checklist scores across all counselling recordings provided, split by therapist. Counselling recordings are ordered chronologically within each therapist's allocation and have been outlined in the note to Figure 9.1. Inspection of Figure 9.1 reveals that therapist 102 and 104 were most consistent with app discussion across clients and sessions. App discussion reduced in later counselling sessions for therapist 102, but they consistently reviewed and adjusted app usage based on client feedback.

Table 9.3. Inter-rater reliability on app discussion coded from a sample of counselling recordings from a feasibility trial

| | | | | App checklist scores across rater 1 and 2 | | | | | | | | | | | | | |
| | | | | Client app count (6) | | Therapist app count (6) | | App use reviewed (1) | | Suggested features (1) | | Features count (3) | | Missed opportunity (1) | | Total (18) | |
Recording	Duration	Client	Therapist	EB	CN	EB	CN	EB	CN	EB	CN	EB	CN	EB	CN	EB	CN
458085	00:48:33	1001	101	1	2	3	4	1	1	1	1	3	3	1	0	10	11
458485	00:50:51	1007	101	0	0	5	5	1	1	1	1	2	2	1	1	10	10
459142	00:49:59	1018	101	3	2	2	2	1	1	1	1	1	1	0	0	8	7
459188	00:08:32	1021	101	1	1	2	2	-	-	-	-	-	-	-	-	3	3
459568	00:53:57	1025	101	1	1	4	3	1	1	1	1	3	2	1	1	11	9
459576	00:49:39	1027	102	1	1	2	2	1	1	1	1	1	2	1	1	7	8
459639	00:48:54	1031	102	0	0	1	1	1	1	1	1	1	1	1	1	5	5
462983	00:46:17	1033	102	0	0	1	1	0	0	0	0	0	0	0	0	1	1
463048	00:41:44	1035	102	0	0	3	2	1	1	1	1	1	2	1	0	7	6
464089	00:36:24	1039	104	1	2	1	2	1	1	1	1	1	1	0	1	6	7
464376	00:38:59	1040	104	2	1	3	3	0	0	0	0	0	0	1	1	6	5
465214	00:46:15	1041	106	1	1	4	4	1	1	1	1	2	2	1	1	10	10
Mean	-	-	-	0.92	0.92	2.58	2.58	0.82	0.82	0.82	0.82	1.36	1.45	0.73	0.64	7.00	6.83
Agreement																	
Count	-	-	-	8		8		11		11		7		9		7	
Kappa	-	-	-	0.87		0.87		1.00		1.00		0.81		0.89		0.86	
P	-	-	-	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

*EB = Researcher EB; CN = Researcher CN; Count = number of ratings in agreement

Therapist 106 was most likely to miss an opportunity to discuss app usage following a prompt from a client and recorded the least counselling sessions. Of the clients that therapist 102 did work with, their app discussion was consistent until it dropped off at session 5 (recording 44). Therapist 101 was the most inconsistent with their use of app discussion and didn't review or discuss app usage for 9/25 counselling sessions, irrespective of client or session. A Pearson correlation showed a significant negative relationship between the counselling session number (1-6) and app score (0-18) suggesting that across the group app discussion reduced as counselling progressed (r = -0.39, p = 0.009).

9.3.2 Therapist comparisons

Inspection of Table 9.4 demonstrates that on average therapists reviewed client app use, held brief discussions on clients' app experience, and updated advice in response to client feedback. As a group, therapists rarely missed an opportunity to review or suggest advice on clients' app usage. However, two therapists were more likely to miss an opportunity (101 and 103), and one of which was also less likely to initiate app discussion compared to clients (101). The checklist scores varied across therapists irrespective of how many clients they worked with. For example, whilst the therapist obtaining the highest score worked with two clients (104), a second therapist working with two clients (103) obtained the second lowest score. Similarly, the therapist obtaining the lowest score (101) worked with the most clients, but the therapist working with the second most number of clients also obtained the second highest scores. There were no clear associations between checklist scores and therapeutic modality.

Figure 9.1. App checklist scores across counselling sessions in the intervention group of a feasibility trial, split by therapists
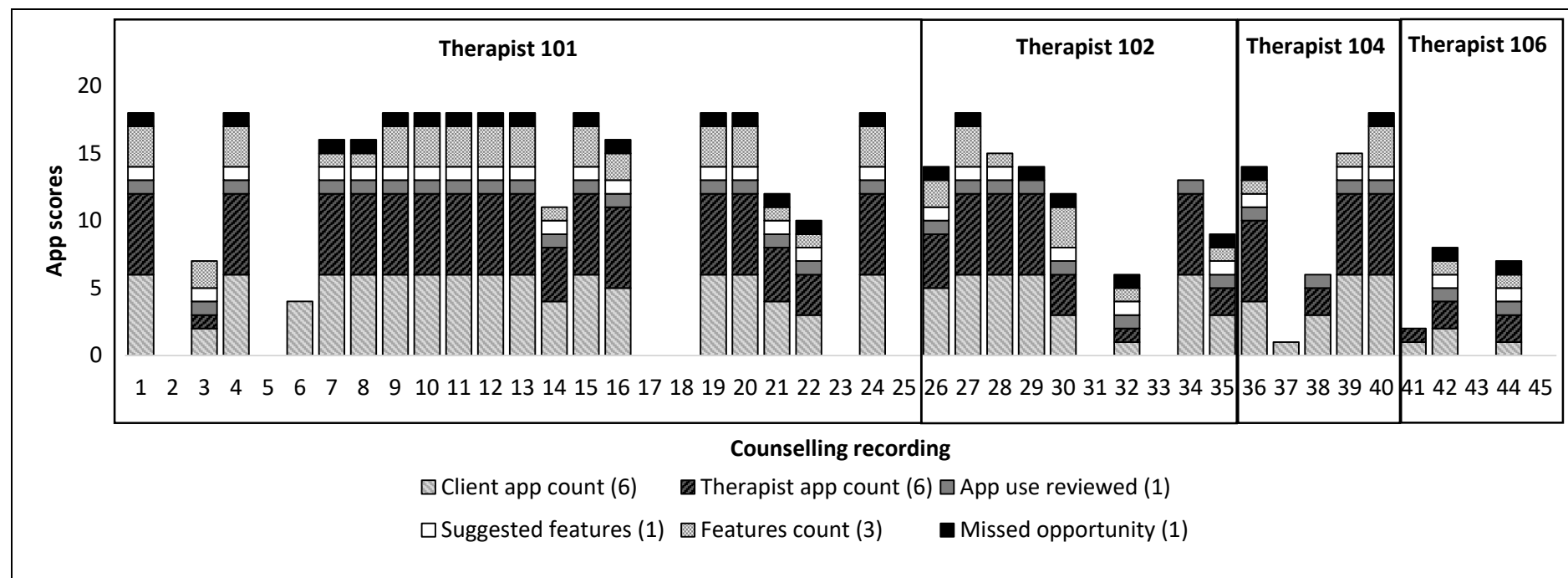
Therapist 101 recordings: 1-6 = Session 1; 7-11 = Session 2; 12-15 = Session 3; 16-20 = Session 4; 21-22 = Session 5; 23-25 = Session 6;

Therapist 102 recordings: 26-29 = Session 1; 30 = Session 2; 31 = Session 3; 32 = Session 4; 35 = Session 6;

Therapist 104 recordings: 36-37 = Session 1; 38 = Session 2; 39 = Session 3; 40 = Session 5;

Therapist 106 recordings: 41 = Session 1; 42 = Session 2; 43 = Session 3; 44 = Session 5; 45 = Session 6.

Note that *'missed opportunity'* is reversed scored whereby 0 = Yes (missed opportunity); and 1 = No.

9.4 Comparison with clinical change

To explore the potential impact that using an app alongside counselling had on clinical outcomes, comparisons have been made with the PHQ-9 and GAD-7 change scores with app scores[33]. The PHQ-9 and GAD-7 change scores have been calculated as the difference between baseline and 6-months measures whereby a negative value demonstrates a reduction in anxiety or depression. The app score refers to the total app score from the checklist that has a maximum score of 18. Inspection of Figure 9.2 demonstrates a slight negative trend for PHQ-9 and GAD-7 scores to reduce more as the counselling app score increases.

9.5 Thematic analysis on counselling recordings

The following section describes findings from the counselling recordings that address app usage during counselling, app usage between counselling, and client characteristics. A total of 45 hours of counselling were recorded from the intervention group and thematic analysis identified 3 themes, 16 sub-themes and 5,443 text references. Themes have been described in the following sub-sections, and a summary of themes, sub-themes, text references, and weighted percentages are presented in Table 9.5.

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[33] Due to missing data from CD-RISC at follow-up and from unrecorded counselling sessions it was not possible to compare app scores with resilience.

Table 9.4. Summary of app checklist scores from all counselling recordings collected from a feasibility trial (n = 45) and split by therapist

Therapist ID	Client count	Sessions Recorded[2]	Mean (rank) app checklist scores across therapists						
			Client app count	Therapist app count	App use Reviewed	Suggested Features	Features count	Missed Opportunity	Mean of Total
Max score[1]			6	6	1	1	3	1	18
101	6	25	2.60 (4)	2.30 (4)	0.60 (3)	0.40 (4)	0.90 (4)	0.40 (3)	7.2 (4)
102	5	10	4.90 (2)	5.00 (2)	1.00 (1)	1.00 (1)	1.70 (2)	0.90 (2)	13.9 (2)
103	2	5	3.40 (3)	3.40 (3)	0.60 (3)	0.60 (3)	1.00 (3)	0.40 (3)	9.4 (3)
104	2	5	6.00 (1)	6.00 (1)	1.00 (1)	1.00 (1)	3.00 (1)	1.00 (1)	18.0 (1)
Mean	-	-	4.23	4.18	0.80	0.75	1.65	0.68	12.13
SD	-	-	1.52	1.65	0.23	0.30	0.97	0.32	4.81
Min	-	-	2.60	2.30	0.60	0.40	0.90	0.40	7.20
Max	-	-	6.00	6.00	1.00	1.00	3.00	1.00	18.00

[1]The maximum score that can be obtained for each item in the app checklist

[2]Not every counselling session was recorded across clients

9.5.1 Theme 1: Client factors (71%)

Client factors refer to any discussion that referred to the client, their reason for seeking help, their environment and personal or social characteristics. Over 70% of counselling content referred to client factors and 53% concerned a range of presenting issues (79% context specific) including: abuse, academia, anxiety, bereavement, daily function, depression, eating concerns, family distress, hostility, identity issues, obsessive compulsive disorder (OCD), panic, mental health linked to physical conditions, relationships, self-harm, sleep, social anxiety, and suicide. Client personal characteristics were heavily discussed during counselling which could refer to behaviours that were helpful, problematic, or expected within the student context.

The severity of presenting issues was also indicated through experiences which were long-lasting, diagnosed prior to university, requiring medication, and with family history (e.g. *"it's been like this for the last few years"*; *"you were diagnosed with depression as a teenager?"; "I'm now taking Mirtazapine"; "my brother pulled out of uni when he was diagnosed with OCD"*). Only 14 text references referred to non-traditional students (e.g. *"Are you familiar with the English saying…"; "Next week the children are with my partner…"*). Student experiences were also prominently discussed during counselling (13%) including: adjustment issues, burnout, criticism, frustration, mood swings, loneliness, feeling misunderstood, feeling overwhelmed, problems concentrating, stress, supporting friends with a mental health concern, and reliving traumatic experiences.

Figure 9.2. Comparison between clinical change on PHQ-9 and GAD-7 with app checklist scores derived from audio recordings of counselling sessions from the intervention group of a feasibility trial
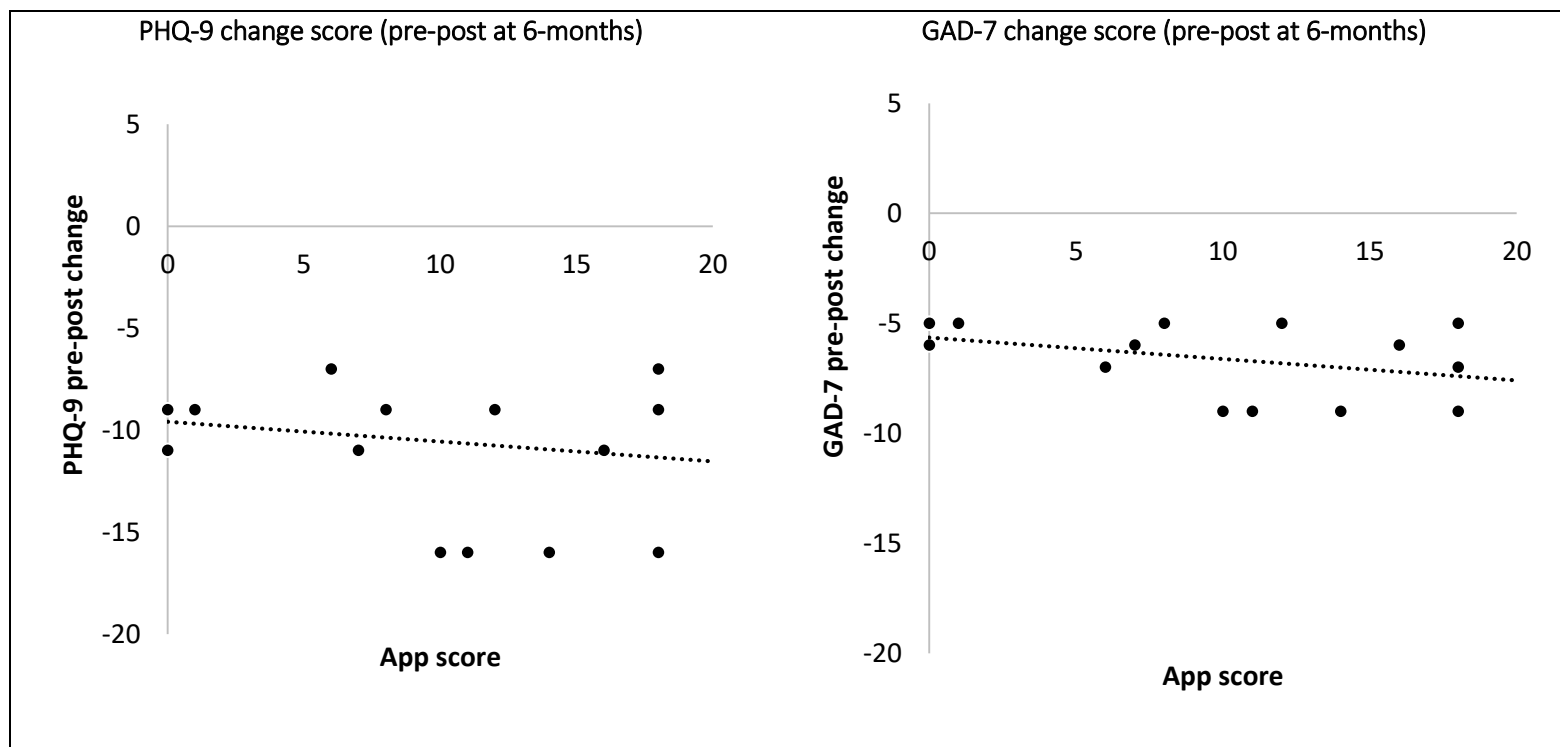
Reassuringly, most personal characteristics were helpful and included students discussing coping strategies, self-management techniques, desires to understand their mental health, striving for independence, claiming responsibility, and practicing self-control (e.g. *"I know I can do more"; "I find it helps to go outside to calm myself down"; "I need to understand it so I can fix it"*). Only a few behaviours were unhelpful including: avoidance, self-destructive behaviours, and general experiences of instability (e.g. *"I just push it away and keep busy"; "I think this is a really bad idea but I do it anyway"; "It's like constant mood swings"*). The personal characteristics anticipated within the student context included frequent comparisons to others, personal pressure, self-criticism, confidence, loneliness and isolation. The three remaining sub-themes related to students using additional support alongside counselling (e.g. friends/family), social factors (e.g. experiences with friends), and factors specific to the university environment (e.g. shared accommodation).

9.5.2 Theme 2: Therapeutic Factors (18%)

Therapeutic factors relate to counselling content that addressed practical aspects of counselling such as booking the session, suggesting resources (separate to the app), and discussing clinical outcome measures. Therapeutic factors also included semantic aspects of counselling such as the client demonstrating progress, the therapist referring to their therapeutic model or discussion that embodied a typical process of counselling (e.g. clients not knowing what to say). A sizeable proportion of practical discussion (41%) concerned administrative factors such as explaining confidentiality and referring to the counselling contract (e.g. *"we're looking at around 6 sessions"*). Many restrictions (36%) also arose within the practical sub-theme when therapists and clients discussed their availability to fit sessions within term-time (e.g. *"I'm going home for a while at the end of this month")* and recovering from time between sessions (e.g. *"I think it's been a few weeks since we met"*).

The second prominent sub-theme addressed ways of supplementing counselling including: meditation, mindfulness, relaxation, progressive muscle relaxation, positive visualisation, thought journaling, and group counselling. These factors complement the high prevalence of anxiety measured at the initial assessment as well the discussion of physical anxiety symptoms during counselling.

Table 9.5. Summary of themes, sub-themes, text references, and weighted percentages coded from audio recordings of counselling (n = 11) from the intervention group of a feasibility trial

Theme	Sub-theme	Respondents	References	Total	%
(1) Client Factors				3,888	71.4
	Presenting issues	11	2,044		52.6
	Personal characteristics	11	619		15.9
	Experiences	10	485		12.5
	Lifestyle	10	245		6.3
	Background	6	151		3.9
	Additional support	5	150		3.9
	Social	4	102		2.6
	Environment	4	92		2.4
(2) Counselling Factors				988	18.2
	Practical	11	308		31.2
	Supplementing sessions	9	190		19.2
	Client progress	9	182		18.4
	Style	9	169		17.1
	Outcomes	9	103		10.4
	Process	5	36		3.6
(3) Research Factors				567	10.4
	App discussion	7	495		87.3
	Practical	3	72		12.7
Total			5,443		

Moreover, whilst the intervention encouraged therapists to utilise app features, therapists also encouraged students to use other resources such as books, articles, online videos, and other workshops available at the service. Clients demonstrating progress was coded highly from counselling discussions and could be demonstrated by numerous factors. For example, clients displayed evidence of acceptance (e.g. *"I think I've finally accepted that I'm allowed to feel upset"*); learning (e.g. *"I've learned to stop the thought cycle"*); and general improvements (e.g. *"These last couple of weeks have been pretty good"*). Therapists also commented on clients' progress that prompted students to agree (e.g. *"You've done a lot of work for yourself so well done it's not easy"* and *"That's a really positive, constructive attitude, well done"*). As expected, the therapeutic style was portrayed in how therapists conducted the sessions and included: counselling (*"my way of working is very much about talking rather than techniques"*),

compassion (*"you need to give yourself lots of compassion, time, and nurturing"*), and CBT (*"I'm a cognitive behavioural therapist which means we'll focus on what kinds of thoughts and behaviours are contributing to your particular emotional state"*).

Across all styles, therapists checked client understanding and prompted clients during the session (e.g. *"How did you find that then?"*, *"why do you think it might be useful to know that at this stage?"*, *"are you happy with those particular targets and where we're heading?"*). The two final and less prominent sub-themes of therapeutic factors include discussing outcomes and factors related to the general process of counselling. As clients progressed through counselling there were more frequent references to therapeutic outcomes including actions from counselling and outstanding factors. Positive outcomes were discussed the most (35%), followed by negative consequences of students' time at university (25%), and outstanding or future oriented factors beyond counselling (15%). Students described numerous ways in which counselling had positively impacted on either their quality of life or academic coping (e.g. *"I've felt a lot better and I've been working better"*; *"It's helped me realise what the problems are and see them more clearly"*).

Discussion also referred to negative consequences from students' situations including taking time off university, repeating an academic year, and experiencing extenuating circumstances (e.g. *"I only took two weeks off uni* [following the death of a parent] *as I had too much work on"*; *"the admin person asked if I ought to defer for a year and just try to get a job"*; *"I need to talk to my tutor about how the whole process works for repeating my modules"*; *"personally I think you'd be entitled to a letter to the exam board…"*). Future oriented factors primarily concerned clients' preparing for after counselling (e.g. *"I'm a little apprehensive that in the future it'll happen again"* and *"maybe make a plan so that if you feel yourself dipping, then these are some of the things you might do"*).

9.5.3 Theme 3: Research factors (10%)

Research factors refer to any discussion concerning the app or practical requirements of the study (e.g. audio recordings, surveys, or researchers). Only 10% of counselling discussion referred to the research study such as the intervention itself or practical aspects of the project. Most research factors (87%) directly referred to the app or using the tablet during the counselling session. Both clients and therapists instigated app discussion, but for distinct reasons. When therapists discussed the app, it served several

purposes including: advising clients on specific features, working with clients to plan app activity, checking client progress, and using the computer tablet to view clients' app usage (e.g. *"this is a visualisation to focus your mind"; "how many times do you think it might be useful in a day to record how you're feeling?"; "Is there anything on there you can show me that you've done?"*). More constructive app references were made by the CBT psychotherapist, whereas app references by counsellors were more cautious (e.g. *"the thing with the thought challenging is to do it lightly because we're not doing CBT"* and *"I don't think you have to Figure out your moods…"*). Nonetheless, most app references were positive and therapists were conscious to ensure that using or discussing the app did not overtake the counselling session.

When clients referenced the app, it was typically in response to therapists checking their progress. For example, *"I used the app last night"* and *"I've tried a few of the meditations"*. Occasionally, clients instigated app discussion (e.g. *"Can I talk about the app?"*), or worked with therapists when deciding whether the app could be used (e.g. *"maybe I can remind myself to track my behaviour and emotion by using the app"*). The final research factors discussed during counselling referred to practical aspects, which accounted for 0.9% of text references. Moreover, these practical references were anticipated when starting the audio recording (e.g. *"If there's anything you don't want to be recorded we can just turn this off"*) and only 0.3% directly mentioned the research study (e.g. *"because you're in the research group, if you wouldn't mind filling out this survey"*).

9.6 App usage during counselling sessions

The 495 text references concerning the app have been explored in more detail to identify dominant app features that potentially contributed to counselling outcomes. Thematic analysis produced 2 themes, 4 sub-themes, and 24 codes (Table 9.6).

9.6.1 Theme 1: App factor (76%)

Inspection of Table 9.6 demonstrates that 13 app features were discussed in counselling, with the most popular including relaxation, thought journals, and general tracking. Discussion of relaxation exercises accounted for 50% of discussion and was positive: to improve clients' daily activities (e.g. *"you can use the app to help… there are some relaxation exercises for sleep"; "there are short relaxation exercises on the app which will be easy to fit into your daily schedule"; "progressive muscle relaxation exercise is good to burn off that excess adrenaline"*).

Table 9.6. Summary of themes, sub-themes, codes and text references to a well-being app coded during counselling from the intervention group of a feasibility trial

Theme	Sub-theme	Code	Respondents	Reference	Total	%
(1) App Factor					341	76
	Feature				337	
		Relaxation (General)	9	134		
		Journal	6	75		
		Tracking	5	42		
		Usage	5	40		
		Mood	5	17		
		Goals	5	14		
		Reminders	5	14		
		Relaxation (Breathing)	5	11		
		Meditation	4	11		
		Mindfulness	4	5		
		Panic exercise	2	5		
		Online community	1	4		
		Visualisation	1	1		
	General				4	
		Difficulties	1	3		
		Practical	1	1		
(2) Therapist Factor					107	24
	Techniques				104	
		Checking	10	38		
		Encouragement	8	28		
		Activity during session	7	23		
		Discouragement	3	17		
		Personalising	2	9		
	Resources				3	
		Alternatives to app	2	3		
Total	4	21		495		

Text references account for approximately 10% of counselling recordings and have been adapted from Table 9.5 under the theme *Research Factors.*

Therapists also encouraged clients to use relaxation exercises to complement therapeutic work between counselling (e.g. *"you can settle your mind with the relaxation exercises before you let yourself experience the thoughts you've been avoiding…"*). Therapists also catered the use of the relaxation exercises to suit clients in

different situations (e.g. *"The exercises on the app are a bit short, so you might need to do it more than once but it can really help with the depression"; "even in the library, you could sit down and do it discretely with your headphones on"; "try the relaxation before bed… to improve the quality of your sleep and reduce your stress levels"*).

The relaxation exercises were generally viewed as easy to access, quick to try, and reassuring to use in moments of stress. Compared to other app features, clients were most likely to take the initiative to use the relaxation exercises before therapists suggested them. For example, when therapists mentioned relaxation, clients typically responded with examples of relaxation they'd already tried (e.g. *"I've put the sleep* [relaxation] *on to help me relax in bed"; "I've been using the sleep relaxation a few weeks now and it seems to be helping… "; and "during the Easter break I was able to relax do the exercises on the app"*). Three of the four participating therapists completed relaxation exercises with clients during the counselling session despite working from different therapy styles (e.g. CBT psychotherapy, person-centred psychotherapy, and humanistic psychotherapy). These occasions were coded as a therapist factor as a technique used within the session (see next section), but each of the therapists used the relaxation exercise once with a client either to guide clients through the exercise when they struggled to relax or in response to a client becoming distressed (e.g. *"Right let's try it here then you and me… so just get comfortable and I'll press start"*).

In line with clients taking the initiative to use the relaxation exercises, some clients also used the journal to process negative thoughts (e.g. *"in the moment I was absolutely convinced I'd ruined everything so I put that into the app… I was able to change it into something more helpful")*. By contrast, another client struggled to do the thought challenging exercise so they raised it in the counselling session (e.g. *"I don't know if it really fits with what I said… I changed the sentence but I don't think it's right…")*. The contrasting account of these clients mimics the general trend for the mixed discussion around the journal feature. Moreover, although the journal was the second most discussed feature during counselling, content was either offered by clients describing difficulties using the feature or content was offered by therapists encouraging clients to use the journal outside of sessions. Regarding clients' struggles with the thought challenging feature, therapists' responses were usually encouraging (e.g. *"If you've been using this and it's been helpful to get it out from your head then it might be somewhere to just write your thoughts"*). However, this encouragement was usually offered by the CBT psychotherapist and other therapists were more cautious

(e.g. *"I know the app is a CBT app and it's got this thing about distortions in thinking, but we all distort and you could argue that thinking is a distortion", "It runs very much on the CBT side of things… I'm not a CBT person… CBT is very good at looking at thinking"*).

Aside from the relaxation and journal features of the app, clients benefitted from regularly tracking their moods and health behaviours. The tracking feature is the simplest feature on the app that requires little initiative from clients as it provides daily prompts which link directly to the activity log. This simplicity alongside minimal user requirements likely explains why it was popular with clients. Despite its simplicity, clients reported several benefits from using this feature (e.g. *"logging my feelings has allowed me to reflect more and whereas before I would get stressed", "making a note of my mood and looking at it over time helps me to appreciate how I'm feeling and acknowledge the days I am feeling calm"; "sometimes I look back and I think actually it wasn't that bad, maybe at the time it felt bad but I can see I was fine in the end"*). Therapists also encouraged clients to use the tracking features. However, their advice was usually vague (e.g. *"There's also lots of things to track on there so have a look and see what you might want to track"*). One therapist discouraged the tracking features (e.g. *it's really a bit of wasted energy to try and figure out why. Because they'll change anyway"*). By contrast, the CBT therapist encouraged tracking features (e.g. *"it'll really help us to find those patterns linking your moods with thoughts and address those problems"*).

Whilst there were differences between therapists in the features they promoted, therapists still encouraged clients to use the app. One therapist on occasion handed the responsibility over to the client (e.g. *"I'll leave you to have a go and look at different aspects of the app…"* and *"I won't really say much about the app… I'll leave up to you to use outside of sessions and to talk about it if you want to talk about it"*). This example highlights how using an app alongside counselling, whether guided or unguided, has several applications and would not be appropriate to insist on implementing a standardised approach. The remaining features discussed during counselling accounted for 15%[34] of app discussion and referenced clients' use of the app in general. For example, *"I'm in a good place so I don't use it as much but it's nice to know it's there"; "I've found the app quite useful, I don't use it every day but every couple of days"*). The final and less prominent feature discussed during counselling was the goal

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[34] Usage (40) + goals (14) + reminders (14) + online community (4) = 72; / total (495)*100 = 14.5%

setting feature which was raised equally by clients and therapists (e.g. *"so there's a goal in there, isn't there… if sleep is better, going to sleep earlier, getting up earlier… that might be a target we can set and you can use the app to monitor your progress on that"* and *"the things you can do on the app is set yourself a target like 'today I've got to make sure I go out once a day"').*

9.6.2 Theme 2: Therapist factor (24%)

The main sub-theme within the therapist factor referred to different techniques that therapists used to instigate app discussion and mainly involved checking. Checking techniques referred to any questions from therapists to either check clients' understandings (e.g. *"So you're saying you want to catch yourself before you spiral?"*); to check their own understanding (e.g. *"so you think the app will be quite helpful?"*); or more broadly to check on clients' use of the app (e.g. *"How are you getting on with the app?"*). Although checking understanding would usually demonstrate a positive technique, therapists generally portrayed doubt, resistance, or negativity when checking on clients' app usage. For example, *"I suppose I should ask you about the app thing"* and *"in terms of the app, if you hadn't had it would it make a difference do you think?"*. Occasionally, checking techniques were encouraging (e.g. *"Do you know how to get to it in the app?*) and were usually open (e.g. *"How are you finding it?"). Therapists also used more specific techniques such as encouragement, discouragement, and activities during the counselling session (e.g. *"keep going with that, every night"; "if the app doesn't work for you then you can try the exercises I sent you instead"; and "I don't think you have to figure out your mood"*).

9.7 Discussion

With client and therapist feedback agreeing that a well-being app could facilitate counselling, but disagreeing on the level of guidance needed, Chapter 9 explored whether the addition of app activity facilitated therapeutic outcomes. As a group, therapists integrated the app into counselling by reviewing clients' app usage and adjusting advice based on feedback. However, app discussion significantly reduced as clients progressed through counselling and inconsistencies emerged across therapists. Analysis of counselling content identified numerous examples of clients progressing through counselling, experiencing improvements in their situation, and planning to manage their wellbeing beyond counselling. Discussion of app activity further revealed that daily tracking of moods helped clients to reflect on their situation and make their own observations outside of counselling. Independent use of the relaxation exercises

also helped clients to manage their anxiety away from counselling and helped them to prepare for the end of counselling. At the feasibility level, the combined findings suggest that the design of the trial was acceptable and implemented well. Regarding the potential impact of the intervention, varied use and discussion of a well-being app alongside counselling showed potential to facilitate the therapeutic process and help to maintain clinical outcomes.

Feedback from clients and therapists raised concerns for intervention fidelity as it was not clear whether clients' app usage had been reviewed or guided during counselling. The concerns for intervention fidelity were significant, but not unexpected as variability in the use and integration of feedback in psychotherapy has been demonstrated previously. For example, Lucock at al., (2015) found variation in the extent to which therapists discussed outcomes from clinical assessments with their clients, which was also partly determined by therapists' acceptability of discussing clinical outcomes during counselling and whether they thought it could benefit clients. In the current thesis, analysis of therapy recordings further revealed that the extent to which clients' app usage was discussed during counselling relied on how heavily clients were using the app at a given time, whether clients felt they needed guidance, and whether therapists thought it was appropriate to raise discussion of the app. For most counselling sessions, clients' app usage was briefly discussed and therapists provided guidance in response to feedback.

Interestingly, the responsibility to initiate app discussion was shared by clients and therapists and the likelihood of either of them raising app discussion varied across sessions. Clients' ability to raise app discussion was a unique benefit of the intervention as clients were already familiar with what they had been tracking on the app. By contrast previous studies that have integrated feedback into counselling have discussed clinical outcomes, which clients are less familiar with and may not feel comfortable asking about their clinical scores (e.g. Anker, Duncan, & Sparks, 2009; Harmon et al., 2007). Having the additional responsibility to raise app discussion likely contributed to clients' improved resilience and showed potential to prepare clients for self-management beyond counselling. The overarching theme from app discussion suggested that clients used the app flexibly, used it more when they were struggling and less when they were happy. Clients also felt reassured to know they could use the app if they started to struggle again and this was particularly helpful when preparing for the end of counselling.

One surprising result was how the relaxation exercises were the most popular app features discussed in counselling. On occasion, relaxation exercises were completed during counselling sessions with therapists guiding clients to alleviate anxiety. The decision to use relaxation during counselling is interesting given that therapists worked with different therapeutic models and they had raised concerns regarding the app interfering with their therapy style. Relatedly, therapists worked with clients on the thought reflection exercises despite perceiving this feature as supporting CBT. However, discussion around logging thoughts during counselling was mixed and was often raised by clients but not therapists. The only app feature used regularly and without specific intention was the daily mood and activity tracking. Despite its simplicity, logging moods with thoughts were commonly discussed in counselling and clients often shared their own observations from reviewing their progress.

When discussing clients' reasons for entering counselling, a wide range of concerns were raised which related to their university experience as well as their broader situation. One surprising finding was that 18 unique concerns were raised across counselling sessions despite there only being 11 clients included in the recordings. Furthermore, although many issues were context specific (i.e. academic, housing, or environmental), the range of overlapping and frequently changing issues demonstrated the complexity of mental health difficulties. These concerns also highlight the complexity of support needed in addition to the contextual pressures of academia. Even the contextual issues highlight the nuances of student mental health with 12 unique sources of pressure specific to university experiences. These combined findings are further surprising when compared to the presenting issues of previous student cohorts such as Benton et al.'s (2003) 13-year comparison of student concerns, which identified a growing prevalence of 19 sources of distress, but only one of which concerned academia.

Two of the contextual experiences raised in the current thesis further concern for the emerging severity of university environments as clients described handling the aftermath of a friend committing suicide and living with peers with unsupported mental health difficulties. As well as the severity of needs, students demonstrated long-lasting complications with reference to mental health issues diagnosed prior to university, linked to ongoing physical conditions, and a family history of mental ill-health. Whilst these examples are specific, they raise concerns about the emerging trends in university living and quality of life for young adults in academia. Compared to the feedback

provided by clients and therapists in Chapter 8, analysis of the counselling recordings helped to elucidate initial concerns. There was no doubt from client feedback that counselling improved their ability to cope at university and their wider situation, but it was unclear *how* counselling had facilitated this improvement. Analysis of recordings suggested that counselling helped clients to better understand their mental health, work through their troubles, and taught clients how to view their struggles differently, should they reoccur.

The addition of clients logging their moods, thoughts and behaviours on a well-being app facilitated the development of a skilled-based approach for clients monitoring their own mental health. Specifically, the app log and review features helped clients to make their own observations on their changing moods. This feature also helped clients to reflect on their journey through counselling and acknowledge that they made it through a challenging time. Relatedly, using the app alongside counselling supported clients' engagement between counselling sessions by monitoring their own progress and completing relaxation exercises when their anxiety increased. The addition of the app was particularly helpful during times when clients were unable to attend counselling during the Easter break, Christmas break, and course placement. These findings likely contribute to clients' improved resilience after counselling and their reduced levels of anxiety beyond counselling. These findings are also in line with previous research that has demonstrated significant improvements with patients experiencing depression, stress and substance misuse (Donker et al., 2013).

Despite the variation in app discussion across therapists and counselling sessions, there was a slight trend for clients to reduce their levels of anxiety and depression beyond counselling the more their app usage was discussed during counselling. However, combined findings from client feedback, therapist feedback, and counselling recordings suggest that app discussion could be vague and non-directive. Clients were more likely to come to their own conclusions from their app usage and therapists were more likely to encourage continued use. However, the two prominent uses of the app – mood tracking and relaxation – do not necessarily require feedback from therapists beyond the encouragement they provided.

These findings lead to three key messages. The first is that simple habits such as logging moods and engaging in brief relaxation can support student well-being despite their meeting criteria that places them in a clinical population for anxiety or depression. The second key message is that students more broadly could benefit from using apps to

support their well-being and better protect them against the daily stressors of university life. The third key message is that using an app alongside counselling shows potential to improve client engagement and contribute to improved outcomes even if app usage is not heavily integrated into counselling.

9.8 Chapter summary

Despite mixed feedback and varied discussions on clients' app usage, therapists typically implemented the intervention in the way it was intended and to an extent that contributed to improved outcomes. On average, app discussion lasted 5 minutes per counselling session and was initiated by clients and therapists in a flexible manner. Relaxation exercises were the most popular app feature amongst clients and therapists as the exercises were the most responsive to clients' needs for managing anxiety. The second most impactful yet simple feature used was the tracking of moods and behaviour, which supported client engagement, contributed to raised awareness of mental health, and encouraged activism in clients beyond counselling. In line with earlier Chapters identifying the need to better prepare therapists engaging with research, Chapter 9 adds to these outcomes. On one level, the current Chapter highlights how implementing the app was successful in a flexible manner, across a range of therapists and to varying degrees of use. However, differences in the success and acceptance of the intervention emerged between therapists, which subsequently led to missing data and concerns for bias. These findings highlight the need to monitor therapists, as well as clients, throughout a research intervention. This improved monitoring would help to prevent missing data from therapists less engaged with research and would contribute to therapist development. These findings together with the key findings from previous Chapters will be discussed more broadly in the next and concluding Chapter.

Chapter 10: Supporting student mental health with embedded counselling: A general discussion

10.1 Chapter overview

Combining the evidence presented in this thesis, the current and concluding chapter aims to broadly discuss the implications from this thesis and to propose a series of recommendations for supporting student mental health during HE. For this purpose, Chapter 10 has the following aims:

1. Discuss the mental health needs of the contemporary student
2. Propose the ways in which students' mental health can be supported
3. Summarise the potential implications for using therapeutic technology in HE
4. Outline the key research design elements for a definitive trial
5. Identify cautions and considerations for future research

10.2 Thesis overview

With the burden of student mental health at an all-time high and with new opportunities from modern technology, the work reported in this thesis aimed to address challenges to embedded counselling services. By doing so, a feasibility trial was designed to test the acceptability and feasibility of using a well-being app within counselling, together with associated measurement tools especially appropriate for students. Chapter 1 outlined a series of policy recommendations, which emphasised the need to capture data on student mental health to inform the development of a sector wide strategy. To identify the current state of evidence, Chapter 2 reviewed the literature on embedded student counselling services from 2005-2015 and identified variation in the types of mental health needs students present with, as well as the range of support options available. There was tentative evidence for psychodynamic and person-centred counselling, but with limited UK evidence and design restrictions, student counselling remained understudied. Chapter 3A provided a foundation to direct further investigation by comparing recent data from embedded student counselling services. In line with previous observations, comparison of recent service data showed that student counselling services have been shaped in response to increased demands and severity of student mental health (Kirsch, Doerfler, & Truong, 2015; Stallman, 2010).

This trend was inferred by the prominent use of high-intensity therapeutic staff and from counselling referrals that increased disproportionately with the growth of the student population. These findings are particularly concerning as recent data from the

Higher Education Statistics Agency (HESA) show that the trend for enrolment to HE continues to increase (see Universities UK, 2016). Therefore, with the current emphasis on embedded counselling services to respond to students' mental health needs, the challenges outlined in the current thesis will increase if the responsibility is not shared with wider institutions (Thorley, 2017). Chapter 3A also identified issues experienced by therapeutic staff when using clinical outcome measures which, unlike services for the general population, were partly due to there not being an appropriate instrument to measure the student symptom profile. The issue of embedded counselling services not being able to collect data on students' mental health is substantial given that new policies recommend that Higher Education Institutions (HEIs) should prioritise the collection of student mental health data as part of a broader national strategy (Institute for Employment Studies, 2015; Thorley, 2017; Universities UK, 2016).

Linking these findings with the inconsistencies of data collection identified in Chapter 2, likely explain why there is limited evidence supporting the effectiveness of student counselling. Similarly, collecting consistent data on student mental health across the HE sector will help to demonstrate effectiveness and contribute to securing service funding. By discussing the use and acceptability of technology, Chapter 3B also identified strategies that have been used to address challenges in student counselling. Technology could also threaten the roles of student therapists if it was used as a replacement to traditional services or if therapists were not appropriately trained. This finding is unexpected given that training for this purpose has been available since 2000 (Goss & Anthony, 2009). However, these training options have been specific to using technology to *deliver* therapy (e.g. email counselling) whereas training for simply using technology has been overlooked.

Chapter 3B identified that technology in embedded student counselling had a range of applications: from streamlining administrative processes to discussing the latest online self-help resources. Despite the concerns raised around the use of technology in student counselling, Chapter 3B found that heads of services were open minded towards using modern technologies and were interested to understand the potential for well-being apps to support student mental health. Since there are many apps publicly available and under continual development, embedded counselling services could benefit from using apps to offer more choice to students and with minimal imposing costs. The work in this thesis aimed to explore the role of well-being apps in student counselling in a planned feasibility trial. The intention to use a well-

being app with students was not to replace therapists but to supplement and extend counselling. The decision to use a well-being app to support engagement between counselling sessions was due to work reported in Chapters 2 and 3 identifying that students' ability to visit the counselling service was subject to their limited availability from academic commitments and their transient time on campus.

A broader aim of the reported work was to identify appropriate clinical measures to monitor student distress and to respond to the recommendations to collect robust data on student mental health (See Institute for Employment Studies, 2015; Universities UK, 2016). The work reported in Chapter 4 validated a student-specific clinical outcome measure for use in the UK. By using the CCAPS, work in Chapter 4 identified that help-seeking students were distinctly elevated in terms of their scores on academic distress, depression and general anxiety. The prevalence of anxiety and depression among students has been demonstrated widely and replicated internationally (Andrews & Wilding, 2004; Aktekin et al., 2001; Khan, Mahmood, Badshah, Ali, & Jamal, 2006). The clinical levels of anxiety and depression in students have also exceeded those for the general clinical population, even when compared to aged matched young adults (Dyrbye, Thomas, & Shanafelt, 2006).

The current work replicates the elevated levels of student anxiety and depression. However, it also demonstrates that students do not necessarily score high on all forms of distress. By contrast, it has been shown that, across a range of contextual situations, students have the highest risk of anxiety, depression, and academic distress. Given that the severity of these symptoms has overtaken the general clinical population, whom have access to long-term support, the findings from Chapter 4 also highlight the added challenge for embedded counselling services to address students' needs in a very short-term basis. This is particularly noteworthy as a recent review highlighted that embedded student counselling services also absorb a proportion of students waiting to receive long-term support from external services like the NHS (Institute for Employment Studies, 2015). This proportion of students waiting to receive long-term support not only adds to service demands but also contributes to students' perception that embedded counselling is only for students with severe needs.

The hypothesis that students wait to seek help until their mental health needs are severe first arose in Chapter 4 as an explanation for their elevated levels of distress upon entry to the counselling service. The help-avoidant hypothesis was explored further in Chapter 5, which used the CCAPS to characterise the symptom profile of a

geographically diverse group of non-help-seeking students. This group was characterised by social anxiety, general anxiety, and academic distress and preferred self-help. The preference for self-help in non-help-seeking students has been demonstrated previously as well as the finding that students feel that they do not have time to seek help (e.g. Czyz, Horwitz, Eisenberg, Kramer, & King, 2013). However, Czyz et al.'s (2013) findings identified that the primary reason for students to not seek help was because they believed they didn't have a mental health problem, despite being at risk of suicide. By contrast, the current work identified a sub-group of students who actively avoided seeking professional help despite having a mental health concern. Combining these findings emphasise the urgency for campus initiatives to engage with students sooner and offer support without needing to attend the counselling service.

With the intervention and feasibility trial taking shape, Chapter 6 presented the trial protocol and remaining design components that were established through discussions with the therapeutic team delivering the trial. According to a new framework, feasibility trials aim to determine whether a new concept is possible, whether it should be explored further and how to design a potential definitive trial if it is deemed appropriate (Eldridge et al., 2016). To comply with these criteria, the current work aimed to determine whether supplementing counselling with guided use of a well-being app is a feasible treatment option for students experiencing anxiety or depression. To answer this question, a set of feasibility outcomes were identified and broadly explored in Chapters 7 to 9.

With the trial methods and feasibility goals outlined in Chapter 6, Chapters 7 to 9 presented findings sourced from both quantitative, qualitative and mixed methods designs. Specifically, the work in Chapter 7 explored quantitative data from the trial to infer: 1) recruitment potential; 2) treatment preference; 3) baseline clinical data; and 4) clinical change. Chapter 8 focused on qualitative data sources to further explore therapy outcomes, client satisfaction and therapist acceptability of the feasibility trial and overall process of embedded research into a counselling service. The work in Chapter 9 employed a mixed-methods design to investigate intervention fidelity and the potential outcomes associated with using a well-being app alongside counselling more broadly. The following section describes key findings and implications from the feasibility trial and broader thesis.

10.3 Symptom profile of the contemporary student

Early in the thesis it was identified that research into student counselling should characterise students' symptom profiles rather than their discrete symptomology (Connell et al., 2006). Identifying clusters of symptoms in this way is important to detect the nuances of student mental health and to capture the varied types of distress that students experience (Rückert, 2015). Findings from the current thesis suggest that UK students approach counselling services with elevated levels of academic distress, depression and generalised anxiety. As a group, help-seeking students rarely scored high on hostility, family distress, substance abuse or eating concerns suggesting that they present with similar symptoms to the general clinical population, with the added burden of academic distress. Whilst the finding that students scored high on academic distress, depression and anxiety causes concern, further research is needed to monitor the longitudinal trend of student distress to extend findings from cross-sectional studies. For example, a recent meta-analysis identified large variation in the prevalence of student anxiety (8-66%) and depression (6-67%) across 29 cross-sectional studies (Hope & Henderson, 2014).

It was particularly interesting that there were also no significant differences between the two student counselling services even though one university had a large city campus and the other had a small rural-town campus. These findings suggest that student mental health issues, particularly academic distress, depression, and generalised anxiety, occur irrespective of their environment. These findings also compliment studies that have associated the academic environment with higher risk of stress, academic distress, suicidal ideation and disordered eating (Abu-Ghazaleh, Sonbol, & Rajab, 2016; Banerjee, & Chatterjee, 2016; Emond et al., 2016). Importantly, previous research has suggested that whilst students' perceived level of stress predicts their intention to drop-out of university, their intention is not directly associated with dropout (Harris, Campbell Casey, Westbury, & Florida-James, 2016). These findings suggest that other factors mediate the likelihood of student dropout and that institutions could benefit from offering stress reduction interventions to be widely available to students from the first instance of entering HE. Offering low-intensity interventions at the institutional level not only has the potential to raise awareness of student mental health, but also has potential to encourage student help-seeking behaviour.

The severity of students' presenting issues in the current thesis led to the proposal that UK students avoid seeking help until their mental health concerns are severe. This avoidance appears to be distinct to the student context as research has shown increased help-seeking for mental ill-health in the general population (Hunt & Eisenberg, 2010). Moreover, the current thesis revealed how stress can be seen as being part of the student experience and suggests that academia can create additional barriers to help-seeking. As a group, non-help-seeking students were distinctly elevated on social anxiety, generalised anxiety and academic distress. Previous research has suggested that socially anxious students may have a higher risk of experiencing academic difficulties as they may struggle to engage with the broader academic culture, may feel uncomfortable contributing to academic discussions, and may avoid seeking help for academic difficulties (Brook & Willoughby, 2015).

Combined with work from the current thesis, these findings highlight there to be a sub-sample of students who would benefit from having access to alternative support such as online courses and self-help to target help-seeking and encourage students to engage with the broader academic culture. The elevated levels of social and generalised anxiety likely contributed to students' non-help-seeking status and explains why students sought validation from friends/family/tutors before seeking professional help. However, there were mixed findings concerning whether students were encouraged or discouraged from seeking help. When students were discouraged they felt stigmatised for being concerned about their mental health and thought they had to "*survive*" university to prepare for later life.

Students also felt that their career prospects would be jeopardised by having a record of approaching the counselling service, and this view has been suggested previously (e.g. Roberts et al., 2001). Other internal barriers were from students losing their sense of entitlement after comparing their situation to others. For example, students compared their situation to peers struggling with a diagnosed mental health issue or a student who committed suicide. These findings elucidate the severity of students' presenting issues and their initial resistance to seek help. However, they also suggest that university living environments can expose students to additional vulnerabilities. Aside from the broad academic context, findings from the current thesis identified additional vulnerabilities at the faculty level. Previously, students from social sciences have been shown to experience lower levels of depression and anxiety whilst being more willing to seek help (Lipson, Zhou, Wagner, Beck, & Eisenberg, 2016). By

contrast, the current thesis demonstrated that social science students reported *higher* levels of anxiety and depression compared to students from other faculties.

In fact, social science students scored the highest on 6 out of 8 types of distress compared to students from other faculties, which experienced 0-3 types of distress. Despite this conflicting account, the current thesis replicated Lipson's et al.'s (2016) finding that arts students scored the highest on depression and engineering students were the least distressed on all areas measured. One explanation for this conflict is that Lipson et al. (2016) compared help-seeking students across faculties whereas the current thesis made faculty comparisons across non-help-seeking students. These findings suggest that a combination of the specific faculty together with help-seeking behaviours impact on students' risk of mental ill-health.

10.4 Supporting students' well-being during HE

10.4.1 Evidence from counselling

Student counselling must be highly developed yet flexible to combine knowledge of university demands as well as offering an array of alternative support to reach out to students. Embedded counselling services must possess these qualities despite being limited to short-term support and being subjected to students' restricted availability from academic commitments. Findings from the current thesis demonstrate that brief counselling contributes to students' ability to cope at university by helping them to build confidence and to better understand their mental health. Counselling also provides students with the skills to identify triggers for unhelpful thoughts or behaviours and to establish strategies to cope with different stressors. Through this development, counselling helps to protect students against mental ill-health and contributes to their resilience. These qualities are essential in the academic context as research suggests that an individual's ability to reach their potential is influenced by their ability to master their environment, develop positive relationships, identify goals, improve personal growth and reach self-acceptance (see Ryff, 1989).

By helping students to develop their psychological well-being, counselling helps students to adapt and respond to academic demands (Freire, Ferradás, Valle, Núñez, & Vallejo, 2016). According to student feedback, counselling also helped them to reflect on their situation and understand why they felt or behaved a certain way. Students claimed that counselling helped them to find enjoyment in their time at university and encouraged them to engage with the academic culture. These findings highlight that

counselling contributes to students' sense of belonging at university by helping them to develop positive relationships and by providing a supportive environment. Developing positive relationships during HE is particularly important as feeling socially connected and has been shown to protect students from experiencing poor mental health (Julal, 2013; McIntyre et al., submitted). Having a strong social connection during HE also contributes to a students' sense of belonging, which not only contributes to their willingness to engage with the academic culture, but it also contributes to their retention (O'Keeffe, 2013).

Having a sense of belonging is also important beyond university as it has been associated with an individual's sense of meaningfulness in their life and future (Lambert et al., 2013). Previous research has also demonstrated that varied forms of support can positively impact on students' sense of belonging (e.g. personal tutoring and student mentors) and HEIs would benefit from raising awareness of these support options (Boyle, Kwon, Ross, & Simpson, 2010; Watts, 2011). Having completed counselling, students felt that it was an essential source of support and were reassured by knowing that they could return to the service. Counselling also helped students outside of the university context by helping students to alter their outlook on life and encouraging them to improve their relationships with others. Clinically, counselling reduced students' severity of depression and anxiety as well as several contextual experiences of academic distress, social anxiety, hostility, substance misuse and eating concerns.

Counselling also improved students' psychological functioning and satisfaction, which likely contributed to their ability to cope with the demands of academia. Students' ability to cope at university can be perceived as an area of skill development in which HEIs can provide opportunities for students to build on their resilience and improve their coping strategies. The importance of students' resilience building has been raised recently because it supports the development of new thinking styles and behaviour responses to adjust to the new demands and stressors of HE (Holdsworth, Turner, & Scott-Young, 2017). By supporting student's self-awareness of their thoughts and behaviours, embedded counselling plays a pivotal role in developing students' resilience.

10.4.2 Areas of service development

Several strengths of embedded student counselling services emerged from the current thesis and can inform service development. With the varying forms of distress students

experience, it is important for services to monitor and respond to a diverse range of needs that are relevant to the student context. Monitoring core areas of student distress (e.g. with the CCAPS; Locke et al., 2011) captures nuances of student mental health that cannot be inferred from general measures of psychological functioning. Identifying symptom clusters for discrete student sub-groups will also allow services to shape the types of support they offer and the ways in which they engage with students. For example, offering peer-to-peer programmes may raise awareness of mental health, reduce the stigma of seeking help, and empower students to consider their own well-being. Ensuring that personal tutoring programmes are specific to different faculties will also provide a point of access and appeal to the needs of students.

A second benefit of monitoring a diverse range of student distress is that services are provided with data that can be used in annual reports to demonstrate effectiveness. Collecting routine outcome data allows comparisons to be made across services to better understand the mental health profile of students and to elucidate emerging trends within HE. If anonymised service data contributed to a national dataset for the UK, then it could be used to inform new polices, guidelines, and recommendations for HE. Developments could also be made towards identifying preventative strategies to equip students with skills to cope with university stressors and to share the responsibility between institutions and embedded services. Implementing campus based preventative programmes would help to manage the demand for embedded counselling and would offer support to students regardless of whether they feel entitled to seek professional help. For example, there are already encouraging preliminary findings from an ongoing Randomised Controlled Trial (RCT) offering a preventative mindfulness intervention to students during exam period, and it is hoped that HEIs encourage further development of preventative programmes (Galante et al., 2016).

To encourage help-seeking, services would benefit from capturing student feedback from individuals who are underrepresented in counselling. Gathering the feedback from a diverse group of students would help to shape service development and would ensure that services are responsive to all students. Findings from the current thesis suggest that student counselling services predominantly suit the needs of undergraduate students and more could be done to engage with: 1) Black and Minority Ethnic/BME students; 2) mature students; 3) postgraduate students; 4) male students; and 5) students from engineering or medicine. The underrepresentation of these

student groups is not specific to student counselling services and relates to a broader issue of student retention and attrition in HE. With the increasing diversity of students in HE, HEIs would benefit from improving the inclusiveness of the learning and teaching environment. This is particularly important with the introduction of the new Teaching and Excellence Framework (TEF), which emphasizes the need for HEIs to support positive outcomes for all students (see https://www.heacademy.ac.uk).

The ability of HEIs to retain students has become a global concern as the rates of student dropout continue to increase (Crosling, Heagney, & Thomas, 2009). Students' sense of belonging has been suggested to be a key driver for student retention in HE, and embedded counselling services play an important role in creating a supportive environment to students (O'Keeffe, 2013). Regarding the types of support available, counselling services (and the wider institution) would benefit from offering a range of support options that are available throughout the year and during evenings and weekends. Offering varied support options that are available outside of the traditional working hours and without needing to be on campus is becoming increasingly important as the number of distance leaners and students living off campus (e.g. with parents) gradually increases (see Holley, & Kane, 2016). Whilst it is important for services to continue to offer face-to-face counselling, there is also merit in offering support which can be accessed by students sooner and without requiring an assessment at the counselling service.

10.4.3 Using technology to extend existing services

One of the ways in which counselling services can diversify and extend the types of support available throughout the year is to use technology. Findings from the current thesis suggest that technology in an embedded counselling service can be flexible, wide reaching and responsive to students. When used to automate administrative tasks (e.g. electronic scheduling system) or to communicate with students (e.g. SMS text message or email), technology can help services to be more time efficient and responsive to demand. Regarding effectiveness, administering measures electronically not only simplifies the completion process for students, but also removes the task of scoring responses and allows students' progress to be reviewed more readily (e.g. with the CORE-OM, Barkham et al., 2013; or CCAPS, Locke et al., 2011). When used therapeutically, technology has the potential to enhance face-to-face support and engage with students that would otherwise not have access. Importantly, the role of

technology is not to replace traditional support, but rather to provide a gateway to the service and offer more choice to students.

Technology must be relevant to students and implemented with appropriate staff training. The need for training around the application of technology was a recurrent theme throughout the thesis and has been raised by previous studies (e.g. Barry, Clarke, Chambers, & Kuosmanen, 2014). Of the services that reported favourably concerning technology, they also had clear intentions and engaged with staff that were interested in using technology. Moreover, the consensus was that technology aligns with students' expectations and that staying up to date with modern times is important for services to remain responsive. Services would also benefit from sign-posting students to a range of mobile apps to support anxiety, depression, and general well-being. However, caution is needed when sign-posting students to use mobile apps, as research on the efficacy and effectiveness of well-being apps is still underway.

A recent review of the latest mental health apps for anxiety and mood disorders identified a lack of connection between researchers, clinicians, and app developers which needs to be addressed moving forward (Ameringen, Turna, Khalesi, Pullia, & Patterson, 2017). HEIs provide an ideal opportunity to engage students with the research, evaluation, and development of mobile apps for well-being. Findings from the current thesis demonstrated that students benefitted from using a range of app features regardless of whether students met clinical criteria for anxiety, depression or were high functioning. When used alongside counselling, students used relaxation exercises to reduce anxiety and maintain improvements after counselling. Brief discussion of app usage within counselling also contributed to higher student satisfaction, higher resilience, and improved clinical outcomes. These collective findings compliment the growing body of work on therapeutic technologies and, mobile apps in particular, have received considerable attention in recent years to the extent that there are already quality frameworks and reviews (e.g. Anthes, 2016; Chan, Torous, Hinton, & Yellowlees, 2015; Donker et al., 2013; Giota & Kleftaras, 2014).

10.5 Research design and components of an embedded RCT

Several research design elements were identified early in the thesis including the need for research to be embedded in practice and delivered by in-house therapists. It is also important for student counselling research to move away from non-experimental, quasi-experimental and single studies, and to develop strong links between researchers and

therapeutic staff. By engaging with therapists at an early stage, research can be shaped by staff feedback and appeal to therapists' personal development. Regarding therapist training, feedback from the current thesis suggests that training on mobile phone apps (or technology more broadly) would benefit from being a structured half-day which would count towards Continuing Professional Development (CPD). Therapists also agreed that case studies should be used to provide examples, with open discussion and role-play activities to build confidence around technology.

Several design factors concerning the feasibility trial were acceptable and can be taken forward for a definitive trial. Regarding recruitment, it is important for the inclusion criteria not to be too restrictive and to capture a diverse symptom profile. Therefore, a range of validated measures is also needed to monitor a range of experiences throughout counselling. The current trial administered 8 instruments measuring: student distress, psychological functioning, anxiety, depression, resilience, therapeutic alliance, and satisfaction. By using clinical measures as well as instruments to infer positive student well-being, research can draw on a range of outcomes relevant to the aims of counselling. Feedback from participants and the level of completion suggested that these measures (and the timing of administration) were acceptable despite participants answering 44-98 questions at any given time. Administering measures electronically, with email prompts and weblinks to mobile enabled surveys were favoured by students. Students also advised to collect personal emails and mobile numbers to use text message reminders and to maintain engagement over the summer vacation.

Certain research design elements created more discomfort with therapists including the intention to randomise and to audio record counselling. Surprisingly (or not), participants did not share therapists' discomfort for either randomisation or audio recording. In fact, 97% of participants (n = 37) claimed that they would not withdraw if they had been randomised. Students also typically had no treatment preference, as they perceived desirable components of both conditions. This feedback further supports a benefit of using an active control condition, as participants would not be disadvantaged by joining the trial. Despite early concerns from therapists, 95% of participants consented to their counselling sessions being audio recorded. To alleviate therapists' concerns about recording, research could benefit from: 1) asking therapists separately if they are willing to audio record; 2) using researchers to collect written informed consent from clients; 3) using computer tablets to audio record; 4) providing training for

therapists to practice; and 5) supporting clients' and therapists' decisions to stop recording.

10.6 Cautions and considerations

There are many cautions to consider when interpreting the findings from the current thesis and when using them to inform development. As new polices and societal demands are introduced, the needs of the contemporary student will continue to change. Therefore, it is important to monitor and respond to students' mental health needs and build evidence to shape services. Embedding research into practice and guiding services by research supports their ability to demonstrate effectiveness and to stay up to date. However, findings from the current thesis highlight the need for more staff engagement in research and more training options offering ongoing support and personal development. In the current thesis, failure to support continuing engagement with the therapeutic staff led to objections by staff and missing data. Similarly, caution should still be taken to monitor staff who are engaged as this can introduce bias and inconsistencies in practice. Caution should also be taken when interpreting staff feedback, as confidence (or lack thereof) does not necessarily translate into ability.

Therapist engagement is essential for the delivery of practiced based research and emphasis should be made to engage with therapists who have been with the service the longest. This is because, although therapist age did not impact on engagement, therapists who had been in the service the longest had the least interest with research. The failure to appeal to these therapists led to issues administering research measures and introduced missing data. However, there is an important distinction to be made between therapists who are newly trained and those who are new to a service. On average, the intervention therapists had 12 years' experience and had typically been working in the service for 2-9 years. Therefore, the issues with engagement were likely a combination of therapists having been in the service for a long time as well as working with a service that has not previously engaged with research. These combined factors mean that the requirements of research activities are potentially very different to standard practice and therapists would benefit from receiving more time and support to fulfil research requirements.

When interpreting findings from the feasibility trial, it is important to note that it was not powered to detect change or to provide evidence concerning effectiveness. It did, however, aim to answer a set of clearly defined feasibility metrics to inform the design of future practice based trials. Trial recruitment was negatively impacted on by

service factors, which led to recruitment for the control condition ending before the target sample size was met. Even with this decision, the recruitment delay resulted in the follow-up phases overlapping with the summer vacation and suffering from missing data. Rectifying this issue is not as simple as training more therapists to recruit participants because it still relies on there being counselling slots and rooms available. Randomising treatment allocation may reduce the recruitment period as it removes the decision as to which clients to recruit. More critically, the allocation bias in the current study resulted from therapists deciding not to recruit certain clients, which delayed recruitment and introduced clinical differences between groups at intake.

Bias was also introduced by therapists who did not feel comfortable recording counselling sessions despite clients providing consent. Issues adjusting to recording counselling were recurrent and research would benefit from providing more opportunities for therapists to adjust. Therapists could also benefit from recording counselling from the first instance of joining the trial to reduce anxiety and avoidance. By using the current study as an example, therapists may be more willing to record if they received evidence to demonstrate that recording counselling did not negatively impact on outcomes. Similarly, client feedback from the current study may encourage therapists to be more open-minded about using modern technologies. By doing so, a repeat of the current study may encourage therapists to be more willing to review clients' app activity and be more consistent with the delivery of a new intervention. As it stands, whilst there are tentative findings to suggest that students may benefit from using an app alongside counselling, the level of therapist guidance needed to make a difference is unclear.

10.7 Limitations of studies within the thesis

The following section reflects on the limitations of each of the studies within the thesis, as well as the overall thesis. Broadly, the limitations include some of the challenges of designing research in a field that is understudied, especially in the UK, and the difficulties of implementing research into a service. By embedding research into practice, this thesis has been predominantly pragmatic with high engagement from stakeholders across the further and higher education counselling sectors. The thesis has also relied on this level of engagement to address the challenges of research being led by a doctoral researcher with a predominant research background, without clinical training. Finally, this section reflects on the experience of conducting research that responds to the needs of the funding body, the British Association for Counselling and

Psychotherapy (BACP), who also train therapists and provide the competency frameworks to evaluate services in the UK.

10.7.1 Limitations of the systematic scoping review of embedded student counselling services in Higher Education Institutions

The primary limitation of the scoping review was that it employed a broad research question because of the limited guidance from previous literature. The scoping review explored both the content and design of research in the field of student counselling and therefore, a large variety of studies were eligible and this created challenges to identify core findings. The variability of the literature, and the descriptive nature of the findings, provided little guidance for the remaining studies in the thesis. A further limitation was using an extensive list of symptoms/topics to explore within the literature, rather than focusing on a select few (e.g., anxiety, depression and academic distress). Another factor that contributed to the findings being descriptive, was that the research was led by a doctoral researcher with no clinical training. This limitation applies to the thesis more broadly, but regarding the scoping review, this meant that the clinical competency of the interventions could not be assessed. This not only limited the interpretations of the findings from the scoping review, but also limited the potential implications for further research within and beyond the thesis.

10.7.2 Limitations of the survey comparison of student counselling services embedded within Further and Higher Institutions

The survey of embedded counselling services was informed by two previous annual surveys, as well as a committee representing further and higher education (FE/HE) counselling sectors. The advisory committee that helped to develop the survey questions were primarily from higher education and didn't include a representative from Sixth Form Colleges (SFC). These factors led to the questions to be more relevant to HE, which subsequently contributed to missing data from FE. At this stage of the thesis, it had not been determined whether the feasibility trial would be embedded within a counselling service in FE, HE or both. Therefore, it would have been more informative to use questions that were more inclusive of each sector. This had not been considered at the time partly because the survey was informed by two previous annual surveys, which used one set of questions for FE and HE sectors. Catering the questions also relied on the advisory committee because they had more knowledge and

experience of the student counselling sector compared to the doctoral researcher leading the survey.

This limitation is an important reflection that applies to the thesis more broadly because research was therefore driven by stakeholders (e.g., heads of service, managers, therapists) who potentially biased the direction of research. This is especially relevant given the recent challenges and funding cuts to the sector. Similarly, it's important to note that doctoral research was influenced by the interests of the research funders and their intentions for disseminating research findings. Shaping research based on the input from stakeholders is advantageous, because it ensures that research is responsive to service needs and increases the likelihood of research being implemented. Ensuring that research was guided by the BACP, who provided funding for the research, also increased the potential impact of research because the BACP develop the training, guidelines and competency frameworks for therapists and services across the sector.

Another aim of the survey was to capture experiences of using clinical outcome measures in student counselling services. This was an important part of the survey, and broader thesis, as it would help to identify appropriate measures to use in the feasibility trial. The decision to use the survey to capture experiences of using clinical outcome measures was primarily because the survey reached a large mailing list for heads of services and therapists within further and higher education. However, using interviews to capture experiences would have been more appropriate than embedded the questions within the survey, because the survey likely limited the amount of information provided. To address this limitation, another pragmatic decision was made to include these questions in the follow-up interviews; to capture therapists' experiences of using clinical measures in more detail.

10.7.3 Limitations of the telephone interviews used to explore the use and acceptability of using digital technology in student counselling services

Participants for the interviews were recruited from the online survey, which was circulated via a mailing list for heads of service and therapists within further and higher education. Recruiting from the survey, rather than directly from the mailing list, potentially biased the sample because participants had already completed the survey and were aware of the broader research aims. This applies to the thesis more broadly,

as all studies acknowledged BACP for funding the research, which may have biased participation. For example, therapists working within student counselling services may have been more likely to participate in research that is supported by the BACP, if they feel loyal to their accrediting organisation. Equally, therapists or heads or services that are accredited by other organisations (e.g., the United Kingdom Council for Psychotherapy; UKCP https://www.psychotherapy.org.uk/) may have been less likely to participate because they may not have viewed the research to be inclusive.

A pragmatic decision was made to conduct the interviews via telephone and to not audio record because the interviews were not intended to be a standalone study; rather an opportunity to engage with stakeholders who completed the survey. These decisions were also made because visiting each of the counselling services would have been costlier on resources for both time and finances. Moreover, interviews were predominately explorative and the analysis was not intended to be extensive. However, these decisions limited the level of detail that could have been recorded by taking manual notes and key items of discussion may have been lost. The questions used for the interviews were also broad and open to interpretation (e.g., "technology use"). This decision was made to ensure that questions could be shaped to fit each service. Whilst this was a pragmatic decision, it also provided answers that were broad and open to interpretation by the researcher.

10.7.4 Limitations of the CCAPS validation study that assessed the acceptability, feasibility and psychometric properties of the CCAPS-62, in a UK student clinical sample

The initial validation of the CCAPS is limited to the 62-item version and doesn't validate the 34-item version. This is noteworthy because the CCAPS-34 was not necessarily designed to be a shortened version of the CCAPS-62; rather the two versions were designed to be used interchangeably. The validation was limited to the CCAPS-62 because it was only feasible to analyse data from the first assessment to fit within the scope of the thesis.

The decision to use the shortened version of the CORE-OM (i.e., the CORE-10) also limits the validation of the CCAPS, as the study compares the psychometric properties of a full measure with a shortened measure. This decision was made to reduce burden and to increase the potential response rate of participants completing 72 items rather than 96 items (i.e., CORE-OM and CCAPS-62). Although the CORE-10 has

been validated against the CORE-OM and has been shown to be psychometrically robust, it would have been more appropriate for the first stage of validation to use the CORE-OM and CCAPS-62, before validating different versions of the measures.

The finding that a higher percentage of UK students met clinical criteria on the CCAPS index compared to US students, was used to suggest that UK students approach counselling services later than US students. This led to the hypothesis that UK students wait to seek help until their mental health needs are severe, however there are alternative explanations for this finding. For example, UK students may not relate to the severity of the CCAPS questions because of the American terminology, which refers to "school work" and "homicidal ideation". Similarly, the CCAPS questions may have been interpreted differently by students from different cultures. For instance, anecdotal evidence suggests that Chinese students interpret questions on self-harm to include smoking cigarettes and drug use, rather than solely referring to acts of self-injurious behaviour. Exploring the face-validity of the CCAPS would be the next logical step of validating the measure for use in the UK.

10.7.5 Limitations of the CCAPS-34 survey used to characterise the mental health profile of a sample of non-clinical students in the UK and their willingness to seek help

The analysis of non-clinical CCAPS data aimed to provide the next stage of CCAPS validation by employing the measure in a sample of non-clinical students (i.e., the general student population). Collecting CCAPS data from a sample of non-clinical students allowed comparisons to be made with data from students receiving counselling and to shed light on the clinical severity of UK students. Whilst it was a logical step to compare CCAPS data across students from the general and clinical populations, the CCAPS was designed as a clinical outcome measure to assess and monitor clinical progression throughout counselling. In other words, the CCAPS has not previously been used as a one-off online survey and the potential impact on validity is unknown. Employing the CCAPS online also allows participants to select the environment in which they complete the measure and this may impact on their responses.

This limitation has been raised previously by therapists regarding online registration compared to registering in person. For this, therapists raised concerns that students may be more likely to exaggerate responses when they complete assessments

online, because they are in a familiar environment away from the clinical setting of a counselling service. Similarly, students may be more likely to underplay responses when they complete assessments in a counselling service, because of the seriousness and professionalism of the environment. This limitation also applies to the questions whereby students indicate their willingness to seek help. The decision to use the 34-item version further limited the comparison with the clinical data. The decision to use the shortened version was partly pragmatic (to optimise the response rate), but it was also strongly dependent on the willingness of participating institutions.

This is because institutions employing the survey planned to use their student volunteer lists and did not want to burden students with the 62-item version, especially as many projects relied on using the student volunteer list. Whilst this decision was necessary, it created a challenge for the analysis, which compared the group means of the CCAPS-62 for the clinical sample with the CCAPS-34 of the non-clinical sample. To account for the group differences being influenced by comparing different versions of the CCAPS, two group comparisons were made: the first compared the group means of the CCAPS-62 from the clinical data with the group mean values of the CCAPS-34 from the non-clinical data; the second extracted the items of the CCAPS-34 from the CCAPS-62 data from the clinical group and recalculated the means of each subscale based on the items from the CCAPS-34. The means from the clinical group obtained from the two analyses had minimal differences. This is not surprising given that the two CCAPS versions are designed to be used interchangeably, however administering the CCAPS-62 and extracting the CCAPS-34 items may have impacted the validity of the measure.

10.7.6 Limitations of the design of the feasibility trial comparing counselling alone versus counselling supplemented with a wellbeing app for students experiencing anxiety or depression

The design of the feasibility trial needed to be pragmatic to ensure that the research could be embedded into practice with minimal disruption to the service. However, implementing a pragmatic design (and allowing the delivery of the intervention to be flexible) introduced variability across therapists and diluted the quality of the intervention. The delivery of the intervention needed to be flexible for several reasons. For instance, in-house student counselling is variable across therapists and institutions because services are catered to respond to the unique needs of their students. Counselling is also more variable than other forms of therapy (e.g., cognitive

behavioural therapy) and at the time when the trial was designed, there was limited direction from clinical manuals. More importantly, the student counselling competency framework from BACP became available after the trial had been designed.

The delayed availability of the competency framework created further challenges for designing the therapist training that aimed to prepare therapists to deliver the intervention. Initially, the training had been planned to be delivered by an app company that had developed training for using mobile phone apps with students alongside therapy. However, the app company delivering the training no longer existed by the time the trial was due to start. For these combined reasons, the therapist training was newly developed and delivered within a short timeframe to ensure that the feasibility trial was not delayed. Delaying the start of the trial was not feasible within the time restraints of the counselling service, the academic timetable, or the timeframe of doctoral research.

Another challenge of developing the training was that the intervention had not been previously tested. That is, supplementing counselling with guided use of a wellbeing app was a new concept and there was little to no research or clinical experience that could inform training. These challenges increased the potential risk of the intervention, which was addressed by allowing the delivery of the intervention to be flexible and guided by therapists' clinical judgement. Similarly, it was not feasible (or acceptable by therapists) to insist that the app was integrated into counselling in a structured manner, because this was not in line with standard practice. Therefore, whilst standardising app usage would have created an optimal research environment to test the effectiveness of the intervention, this was not the aim of the trial and standardising app usage would reduce the likelihood of implementing the intervention beyond the trial.

The final noteworthy challenge of the feasibility trial was that the training was designed and delivered by a doctoral researcher with no clinical training. For this reason, the training was informed by an additional app evaluation study to ensure that the training (and intervention) was informed by students and in-house therapists. The design and delivery of the trial was also supervised by the head of the counselling service and thesis supervisors, who have extensive clinical training and experience.

10.7.7 Limitations of the collection and analysis of quantitative feasibility findings

The primary challenge of the feasibility trial was ensuring that clients were recruited in a timely manner with minimal disruption to the service. The decision to prioritise the service demands led to recruitment delays because there were limited counselling slots available for new clients (i.e., clients already receiving counselling were not eligible for the trial). Recruitment issues may have also been due to reduced therapist confidence for recruiting clients for a new intervention that had not been evaluated. This should have been addressed somewhat by therapist training, however, the unanticipated changes to the training may have reduced therapists' confidence to deliver the intervention. These challenges likely contributed to the trial not reaching the recruitment target as well as missing data from staff not administering research measures. Missing data was also introduced from a communication breakdown between the administrative staff and the clinical team supporting the trial. This raises an important oversight of the training, which focused on preparing therapists delivering the intervention and did not provide separate training for administrative staff or therapists delivering the Treatment As Usual (TAU) condition. This oversight, as well as the time and personnel restrictions, likely created issues that led to missing data from administrative staff and TAU therapists (as they were less engaged with research).

Whilst feasibility trials are not required to randomise treatment allocation, the decision to use clinical judgement to allocate clients introduced bias. As mentioned earlier, using clinical judgement was encouraged as a precaution to reduce client risk, however this unknowingly led therapists to view the intervention condition to be a higher risk option compared to the TAU condition. More importantly, this led therapists to allocate clients with higher clinical severity to the TAU group, which created further challenges when interpreting clinical change and therapy outcomes. For instance, the rise in anxiety observed in the TAU group at 6-months may be explained by TAU clients finishing counselling with higher levels of anxiety compared to the intervention group. This would be a viable alternative explanation compared to the conclusion that the reduction in anxiety was due to the continued use of the relaxation exercises on the app. Analysing the app data would shed light on the extent to which the relaxation exercises were used and contributed to clinical outcomes, however the app data was not available.

10.7.8 Limitations of the collection and analysis of qualitative primary feasibility findings

The qualitative component of the feasibility trial was important to capture the experiences of the therapists and clients, however there were many challenges experienced when collecting and analysing the data. The qualitative data that addressed the primary feasibility metrics were the client exit interviews. Interviews were only conducted with clients from the intervention group because the time and scope of the trial did not permit interviews with both groups. The uniqueness of the intervention also meant that the interview questions primarily concerned app usage, which was not relevant to the TAU group. However, this decision prevented group comparisons to be made across other aspects of the trial, such as therapeutic alliance or client satisfaction.

The client interviews were conducted via telephone to help clients to feel more comfortable discussing their experiences of counselling. Interviews also occurred during the summer break of the academic timetable, which meant that it was more pragmatic to conduct telephone interviews, as students were typically off campus and, on occasion, outside of the UK. The decision to use telephone interviews, and to not audio record, limited the quality and accuracy of data (see Section 10.7.3). Moreover, the sample that participated in the exit interviews was opportunistic, because their participation relied on their consent to be invited to interviews after counselling. Therefore, the interview data may represent a biased sample of clients who had positive experiences of counselling and the wider trial.

A similar limitation is that only the experiences of therapists who delivered the intervention were captured. This too was decided partly based on the size and scope of the trial, but also due to the reduced acceptability and engagement from therapists in the TAU condition. However, not recording therapists' experiences of the trial more broadly excluded TAU therapists and may have made them less likely to engage with research in the future.

10.7.9 Limitations of the collection and analysis of secondary qualitative results

One overarching limitation of the qualitative work produced in this thesis, is that the doctoral researcher leading this work had limited experience of designing, collecting and analysing qualitative research. To address this issue, qualitative research was overseen

by the head of counselling and thesis supervisors. Each qualitative study also had a sub-set of data analysed by an independent researcher who was blind to the intentions of the research. These methods helped to reduce researcher bias and ensured that data were analysed with partial input from individuals with clinical and/or qualitative experience.

The primary aim of recording therapy sessions was to identify the extent to which the app was integrated into the counselling session. The secondary aim was to characterise the difficulties that students bring to counselling. These aims are predominantly descriptive and did not necessarily require clinical expertise. Moreover, a large factor that contributed to the acceptability of the trial, was that clinical competency was not assessed during the trial. Whilst this is not surprising and potentially raises questions, assessing clinical competency was not feasible within the scale of the trial. If the feasibility trial had been a standalone trial, that wasn't designed and delivered within a doctoral thesis, then assessing the clinical competency would be an important factor to measure. Assessing the clinical competency would be the next logical step to consider for pilot trials embedded within student counselling services, which would inform the development of manualised guidelines for in-house counselling services across the FE/HE sector.

10.7 Conclusion

The broad intention of the thesis was to provide a foundation of evidence on the effectiveness of student counselling services to guide service development. To fulfil this aim, the thesis identified a series of challenges to address student mental health, and designed a feasibility trial to explore the potential of supplementing counselling with guided use of a well-being app. In response to changing times, embedded counselling services offer new, dedicated roles to advise students on the services available to support their mental health and academic needs. Therapists delivering student counselling adopt a blended approach that is responsive to students' needs and may be supplemented with alternative support options. When used with a clear purpose and with appropriate training, technology can improve access and service efficiency. Research in the current thesis was informed by feedback from students, therapeutic staff, heads of service, and various stakeholders within the HE sector. By doing so, this thesis characterised the current state of student counselling services in the UK and identified key areas of service development.

One of these areas included the need for services to adopt a validated clinical measure that is relevant to student distress and provides data for services to demonstrate effectiveness. To support this need, the thesis provided the first UK validation of a student-specific clinical measure and differentiated the symptom profiles of non-help-seeking students from help-seeking. Through this activity the work in this thesis also highlighted factors that increase students' risk of experiencing mental ill-health and identified avoidant help-seeking behaviours. Collectively these outputs support the need for campus-based initiatives to encourage help-seeking and to engage with students sooner. The feasibility trial found tentative evidence for students to benefit from using a mobile phone app to positively contribute to their well-being and manage their anxiety outside of counselling. Importantly, students were motivated to complete app activities despite meeting clinical criteria for anxiety or depression and despite therapists' early assumptions.

Whilst discussion of clients' app activity during counselling was brief and highly varied, clients demonstrated more consistent improvements for resilience and were more satisfied than students who only received counselling. The varied delivery of supplementing counselling with a well-being app further demonstrates the potential to enhance counselling across a range of therapeutic models. Clinically, students using an app between counselling sessions maintained reductions in anxiety to an extent that was significantly lower than students receiving counselling alone. Taken together these findings demonstrate the contribution embedded counselling has on supporting student mental health during HE and highlights the merit of using research to inform practice. Moving forward, institutions would benefit from sharing the responsibility of supporting students' mental health and forming links with institutions across the sector to inform change.

References (main)

*Indicates articles included in the systematic scoping review (see Chapter 2)

Abu-Ghazaleh, S. B., Sonbol, H. N., & Rajab, L. D. (2016). A longitudinal study of psychological stress among undergraduate dental students at the University of Jordan. *BMC Medical Education*, *16*, 90-98. doi: 10.1186/s12909-016-0612-6

Aktekin, M., Karaman, T., Senol, Y. Y., Erdem, S., Erengin, H., & Akaydin, M. (2001). Anxiety, depression and stressful life events among medical students: a prospective study in Antalya, Turkey. *Medical Education*, *35*, 12-17. doi: 10.1111/j.1365-2923.2001.00726.x

Ameringen, M., Turna, J., Khalesi, Z., Pullia, K., & Patterson, B. (2017). There is an app for that! The current state of mobile applications (apps) for DSM-5 obsessive-compulsive disorder, posttraumatic stress disorder, anxiety and mood disorders. *Depression and Anxiety*, *34*, 526-539. doi: 10.1002/da.22657

Andrews, B., & Wilding, J. M. (2004). The relation of depression and anxiety to life-stress and achievement in students. *British Journal of Psychology*, *95*, 509-521. doi: 10.1348/000712604236980

Anker, M. G., Duncan, B. L., & Sparks, J. A. (2009). Using client feedback to improve couple therapy outcomes: A randomized clinical trial in a naturalistic setting. *Journal of Consulting and Clinical Psychology*, *77*, 693-704. doi: 10.1037/a001606

Anthes, E. (2016). Pocket psychiatry: mobile mental-health apps have exploded onto the market, but few have been thoroughly tested. *Nature*, 532, 20-24.

Anthony, K. (2001). Online relationships and cyberinfidelity. *Counselling*, *11*, 625-627.

Attkisson, C. C., & Zwick, R. (1982). The Client Satisfaction Questionnaire: Psychometric properties and correlations with service utilization and psychotherapy outcome. *Evaluation and Program Planning*, *5*, 233-237. doi: 10.1016/0149-7189(82)90074-X

Austenfeld, J. L., Paolo, A. M., & Stanton, A. L. (2006). Effects of writing about emotions versus goals on psychological and physical health among third-year medical

students. *Journal of Personality*, *74*, 267-286. doi: 10.1111/j.1467-6494.2005.00375.x*

Bakker, D., Kazantzis, N., Rickwood, D., & Rickard, N. (2016). Mental health smartphone apps: review and evidence-based recommendations for future developments. *JMIR Mental Health*, *3*, e7. doi: 10.2196/mental.4984.

Balestra, E. (2012). Challenges in working with hard-to-reach students in further education. *Association for University and College Counselling*: May. Retrieved from: http://bacpuc.org.uk/_sitedata/1430485622%20akPtNy4vs/Articles/12%20-%20May%20-%20Students.pdf

Banerjee, N., & Chatterjee, I. (2016). Academic stress, suicidal ideation & mental well-being among 1st semester & 3rd semester medical, engineering & general stream students. *Researchers World*, *7*, 73-81. doi: 10.18843/rwjasc/v7i3/09

Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. A. (2008). A comprehensive review and a meta-analysis of the effectiveness of internet-based psychotherapeutic interventions. *Journal of Technology in Human Services*, *26*, 109-160. doi: 10.1080/15228830802094429

Barkham, M., Margison, F., Leach, C., Lucock, M., Mellor-Clark, J., Evans, C., … McGrath, G. (2001). Service profiling and outcomes benchmarking using the CORE-OM: toward practice-based evidence in the psychological therapies. *Journal of Consulting and Clinical Psychology*, *69*, 184–196. doi: 10.1037/0022-006X.69.2.184

Barkham, M., Mellor-Clark, J., Connell, J., Evans, R., Evans, C., & Margison, F. (2010). The CORE measures & CORE system: Measuring, monitoring, and managing quality evaluation in the psychological therapies. In M. Barkham, G. E. Hardy, & J. Mellor-Clark (Eds.), *Developing and delivering practice-based evidence: A guide for the psychological therapies* (pp. 175–219). Chichester: Wiley.

Barkham, M., Bewick, B., Mullin, T., Gilbody, S., Connell, J., Cahill, J., … Evans, C. (2013). The CORE-10: A short measure of psychological distress for routine use in the psychological therapies. *Counselling and Psychotherapy Research*, *13*, 1–11. doi: 10.1080/14733145.2012.729069

Barkham, M., Culverwell, A., Spindler, K., & Twigg, E. (2005). The CORE-OM in an older adult population: psychometric status, acceptability, and feasibility. *Aging & Mental Health*, *9*, 235–245. doi: 10.1080/13607860500090052

Barry, M. M., Clarke, A. M., Chambers, D., & Kuosmanen, T. (2014). Bridging the digital disconnect: exploring youth, education, health and mental health professionals views on using technology to promote young people's mental health. *HPRC*. Retrieved from: http://www.youngandwellcrc.org.au/wp-content/uploads/2014/10/Bridging-the-Digital-Disconnect_Exploring-Youth-Education-Health_031014_FINAL.pdf

Bauer, S., Moessner, M., Wolf, M., Haug, S., & Kordy, H. (2009). ES[S]PRIT – an Internet-based programme for the prevention and early intervention of eating disorders in college students. *British Journal of Guidance & Counselling*, *37*, 327-336. doi: 10.1080/03069880902957049*

Berger, H., Franke, G. H., Hofmann, F. H., Sperth, M., & Holm-Hadulla, R. M. (2015). Mental health of students and its development between 1994 and 2012. *Mental Health & Prevention*, *3*, 48-56. doi: 10.1016/j.mhp.2015.01.001

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*, 893– 897. doi: 10.1037/0022-006X.56.6.893

Beintner, I., Jacobi, C., & Taylor, C. B. (2014). Participant adherence to the Internet-based prevention program StudentBodies™ for eating disorders — A review. *Internet Interventions*, *1*, 26-32. doi: 10.1016/j.invent.2014.03.001*

Benton, S. A., Robertson, J. M., Tseng, W. C., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional psychology: Research and Practice*, *34*, 66-74. doi: 10.1037/0735-7028.34.1.66

Berry, G. W., & Sipps, G. J. (1991). Interactive effects of counselor-client similarity and client self-esteem on termination type and number of sessions. *Journal of Counseling Psychology*, *38*, 120-125. doi: 10.1037/0022-0167.38.2.120

Bewick, B. M., Gill, J., Mulhern, B., Barkham, M., & Hill, A. J. (2008). Using electronic surveying to assess psychological distress within the UK university student population: a multi-site pilot investigation. *E-Journal of Applied Psychology*, *4*, 1-5.

Bewick, B., Koutsopoulou, G., Miles, J., Slaa, E., & Barkham, M. (2010). Changes in undergraduate students' psychological well-being as they progress through university. *Studies in Higher Education*, *35*, 633-645. doi: 10.1080/03075070903216643

Bhopal, K., Brown, H., & Jackson, J. (2016). BME academic flight from UK to overseas higher education: aspects of marginalisation and exclusion. *British Educational Research Journal*, *42*, 240-257. doi: 10.1002/berj.3204

Bickmore, T., Gruber, A., & Picard, R. (2005). Establishing the computer-patient working alliance in automated health behavior change interventions. *Patient Education and Counseling*, *59*, 21–30. doi: 10.1016/j.pec.2004.09.008

Blakely, J., & Bragg, R. (2010). Practical guidance for the development and day-to-day provision of a higher education institution mental health service. Retrieved from: http://www.umhan.com/uploads/3/4/0/9/3409780/umhan_practice_and_service_development_guidance.pdf

Boffey, D. (2015, September 22). Youth unemployment rate is worst for 20 years, compared with overall figure. Retrieved from: https://www.theguardian.com/society/2015/feb/22/youth-unemployment-jobless-figure

Bolton, P. (2014). Tuition fee statistics.

Boulton, M. A. (2016). Does perceived faculty support moderate the effects of stress on student nurse substance use? (Unpublished doctoral thesis). Teachers College Columbia University, New York, US.

Boyle, F., Kwon, J., Ross, C., & Simpson, O. (2010). Student–student mentoring for retention and engagement in distance education. *Open Learning*, *25*, 115-130.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101.

Britt, S. L., Ammerman, D. A., Barrett, S. F., & Jones, S. (2017). Student loans, financial stress, and college student retention. *Journal of Student Financial Aid*, *47*, 3, 25-37.

Broglia, E., Millings, A., & Barkham, M. (2017a). The Counseling Center Assessment of Psychological Symptoms (CCAPS): Acceptance, feasibility, and initial psychometric properties in a UK student population. *Clinical Psychology and Psychotherapy.* doi: 10.1002/cpp.2070

Broglia, E., Millings, A., & Barkham, M. (2017b). Comparing counselling alone versus counselling supplemented with guided use of a well-being app for university students experiencing anxiety or depression (CASELOAD): protocol for a feasibility trial. *Pilot and Feasibility Studies*, *3*, 3. doi: 10.1186/s40814-016-0119-2

Broglia, E., Millings, A., & Barkham, M. (2017c): Challenges to addressing student mental health in embedded counselling services: a survey of UK higher and further education institutions. *British Journal of Guidance & Counselling.* doi: 10.1080/03069885.2017.1370695

Brook, C. A., & Willoughby, T. (2015). The social ties that bind: Social anxiety and academic achievement across the university years. *Journal of Youth and Adolescence*, *44*, 1139-1152.

Brown, P. (2016). The invisible problem? Improving students' mental health. Higher Education Policy Institute: HEPI Report 88. Retrieved from: http://www.hepi.ac.uk/2016/09/22/3592/

Brunner, J. L., Wallace, D. L., Reymann, L. S., Sellers, J. J., & McCabe, A. G. (2014). College counseling today: Contemporary students and how counseling centers meet their needs. *Journal of College Student Psychotherapy*, *28*, 257-324. doi: 10.1080/87568225.2014.948770

Caleb, R. (2014). Uni counselling services challenged by growing demand. The Guardian. Retrieved from: https://www.theguardian.com/higher-education-network/blog/2014/may/27/students-mental-health-risk-cuts-nhs-services

Campbell, D., (1965). Results of counselling twenty-five years later. Philadelphia and London: Saunders.

Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor–Davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, *20*, 1019-1028. doi: 10.1002/jts.20271

Cavanagh, K., & Millings, A. (2013). (Inter) personal computing: the role of the therapeutic relationship in e-mental health. *Journal of Contemporary Psychotherapy*, *43*, 197-206. doi: 10.1007/s10879-013-9242-z.

Center for Collegiate Mental Health. (2015). CCAPS 2015 Manual. University Park, PA. Connell, J.

Chan, S., Torous, J., Hinton, L., & Yellowlees, P. (2015). Towards a framework for evaluating mobile mental health apps. *Telemedicine and E-Health*, *21*, 1038-1041. doi: 10.1089/tmj.2015.0002

Chung, H., Klein, M. C., Silverman, D., Corson-Rikert, J., Davidson, E., Ellis, P., & Kasnakian, C. (2011). A pilot for improving depression care on college campuses: Results of the College Breakthrough Series–Depression (CBS-D) Project. *Journal of American College Health*, *59*, 628-639. doi: 10.1080/07448481.2010.528097*

Clarke, G., & Yarborough, B. J. (2013). Evaluating the promise of health IT to enhance/expand the reach of mental health services. *General Hospital Psychiatry*, *35*, 339-344. doi: 10.1016/j.genhosppsych.2013.03.013

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Collard, P., Avny, N., & Boniwell, I. (2008). Teaching mindfulness based cognitive therapy (MBCT) to students: The effects of MBCT on the levels of mindfulness and subjective well-being. *Counselling Psychology Quarterly*, *21*, 323-336.

Community mental health team (2016). Psychological therapies: Annual report on the use of IAPT services. *NHS Digital: England 2015-2016*. Retrieved from: http://content.digital.nhs.uk/catalogue/PUB22110/psych-ther-ann-rep-2015-16.pd f

Conley, C. S., Durlak, J. A., & Kirsch, A. C. (2015). A meta-analysis of universal mental health prevention programs for higher education students. *Prevention Science*, *16*, 487-507. doi: 10.1007/s11121-015-0543-1

Connell, J., Barkham, M., Mellor-Clark, J., & Mellor-Clark, J. (2008). The effectiveness of UK student counselling services: an analysis using the CORE System. *British Journal of Guidance & Counselling*, *36*, 1–18. doi: 10.1080/03069880701715655

Connell, J., Cahill, J., Barkham, M., Gilbody, S., & Madill, A. (2006). A systematic scoping review of the research in higher and further education. *British Association for Counselling & Psychotherapy: Lutterworth*. ISBN, 1905114176.

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety*, *18*, 76-82. doi: 10.1002/da.10113

Cooke, R., Barkham, M., Audin, K., Bradley, M., & Davy, J. (2004). Student debt and its relation to student mental health. *Journal of Further and Higher Education*, *28*, 53-66. doi: 10.1080/0309877032000161814

Cooke, R., Bewick, B. M., Barkham, M., Bradley, M., & Audin, K. (2006). Measuring, monitoring and managing the psychological well-being of first year university students. *British Journal of Guidance and Counselling*, *34*, 505–517. doi: 10.1080/03069880600942624

Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation*, *10*(7), 1-9.

Crosling, G., Heagney, M., & Thomas, L. (2009). Improving student retention in higher education: Improving teaching and learning. *Australian Universities' Review*, *51*, 9-18.

Cukrowicz, K. C., Smith, P. N., Hohmeister, H. C., & Joiner, T. E., Jr. (2009). The moderation of an early intervention program for anxiety and depression by specific psychological symptoms. *Journal of Clinical Psychology*, *65*, 337-351. doi: 10.1002/jclp.20560*

Czyz, 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*, 398-406. doi: 10.1080/07448481.2013.820731

Dailey, M., & Abbott, T., (2013). BACP Universities & Colleges annual survey. *University & College Counselling.* Retrieved from: http://bacpuc.org.uk/_sitedata/1430485622%20akPtNy4vs/Articles/13%20-%20March%20-%20Survey.pdf

Delgadillo, J., McMillan, D., Lucock, M., Leach, C., Ali, S., & Gilbody, S. (2014). Early changes, attrition, and dose–response in low intensity psychological interventions. *British Journal of Clinical Psychology*, *53*, 114-130. doi: 10.1111/bjc.12031

Deliens, T., Clarys, P., De Bourdeaudhuij, I., & Deforche, B. (2014). Determinants of eating behaviour in university students: a qualitative study using focus group discussions. *BMC Public Health*, *14*, 53. doi: 10.1186/1471-2458-14-53

Dell'Osso, L., Abelli, M., Pini, S., Carlini, M., Carpita, B., Macchi, E., ... & Massimetti, G. (2014). Dimensional assessment of DSM-5 social anxiety symptoms among university students and its relationship with functional impairment. *Neuropsychiatric Disease and Treatment*, *10*, 1325. doi: 10.2147/NDT.S59348

Dendridge, N. (2015). Student mental wellbeing in higher education: Good practice guide, *Universities UK.* Retrieved from: http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/student-mental-wellbeing-in-he.pdf

Department for Business Innovation & Skills reports (2013). Widening participation in higher education. Retrieved from: https://www.gov.uk/government/collections/widening-participation-in-higher-education

Doerr, J. M., Ditzen, B., Strahler, J., Linnemann, A., Ziemek, J., Skoluda, N., ... & Nater, U. M. (2015). Reciprocal relationship between acute stress and acute fatigue in everyday life in a sample of university students. *Biological Psychology*, *110*, 42-49. doi: 10.1016/j.biopsycho.2015.06.009

Doherty, G., Coyle, D., & Matthews, M. (2010). Design and evaluation guidelines for mental health technologies. *Interacting with Computers*, *22*, 243-252. doi: 10.1016/j.intcom.2010.02.006

Donker, T., Petrie, K., Proudfoot, J., Clarke, J., Birch, M. R., & Christensen, H. (2013). Smartphones for smarter delivery of mental health programs: a systematic review. *Journal of Medical Internet Research*, *15*, e247. doi: 10.2196/jmir.2791

Downs, S. H., & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *Journal of Epidemiology & Community Health*, *52*, 377-384.

Duszak, E. M. P. (2014). Evaluating the effectiveness of counseling center-based
    psychotherapy outcome measures: A statistical comparison of the counseling
    center assessment of psychological symptoms and the outcome questionnaire
    (Doctoral thesis, University of Utah). Retrieved from
    http://gradworks.umi.com/36/41/3641677.html

Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2006). Systematic review of depression,
    anxiety, and other indicators of psychological distress among US and Canadian
    medical students. *Academic Medicine*, *81*, 354-373.

Efstathiou, G. (2009). Students' psychological web consulting: function and outcome
    evaluation. *British Journal of Guidance & Counselling*, *37*, 243-255. doi:
    10.1080/03069880902956983*

Eisenberg, D., Golberstein, E., & Gollust, S. E. (2007). Help-seeking and access to mental
    health care in a university student population. *Medical Care*, *45*, 594-601. doi:
    10.1097/MLR.0b013e31803bb4c1

Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and
    correlates of depression, anxiety, and suicidality among university
    students. *American Journal of Orthopsychiatry*, *77*, 534-542. doi: 10.1037/0002-
    9432.77.4.534

Eldridge, S. M., Chan, C. L., Campbell, M. J., Bond, C. M., Hopewell, S., Thabane, L., &
    Lancaster, G. A. (2016). CONSORT 2010 statement: extension to randomised
    pilot and feasibility trials. *Pilot and feasibility studies*, *2*. doi: 10.1186/s40814-
    016-0105-8

Eldridge, S. M., Lancaster, G. A., Campbell, M. J., Thabane, L., Hopewell, S., Coleman, C.
    L., & Bond, C. M. (2016). Defining feasibility and pilot studies in preparation for
    randomised controlled trials: development of a conceptual framework. *PLoS
    One*, *11*, e0150205. doi: 10.1371/journal.pone.0150205

Ellingson, A. G. (1990). Early premature termination from a university counseling center:
    A qualitative research study (Doctoral dissertation, ProQuest Information &
    Learning).

Emond, M., Ten Eycke, K., Kosmerly, S., Robinson, A. L., Stillar, A., & Van Blyderveen, S.
    (2016). The effect of academic stress and attachment stress on stress-eaters

and stress-undereaters. *Appetite*, *100*, 210-215. doi:
10.1016/j.appet.2016.01.035

Erdur, O., Rude, S. S., & Baron, A. (2003). Symptom improvement and length of
treatment in ethnically similar and dissimilar client-therapist pairings. *Journal of
Counseling Psychology*, *50*, 52-58. doi: 10.1037/0022-0167.50.1.52

Evans, C., Mellor-Clark, J., Margison, F., Barkham, M., Audin, K., Connell, J., & McGrath,
G. (2000). CORE: Clinical Outcomes in Routine Evaluation. *Journal of Mental
Health*, *9*, 247–255. doi: 10.1080/jmh.9.3.247.255

Evans, C., Connell, J., Barkham, M., Margison, F., McGrath, G., Mellor-Clark, J., & Audin,
K. (2002). Towards a standardised brief outcome measure: Psychometric
properties and utility of the CORE-OM. *British Journal of Psychiatry*, *180*, 51–60.
doi: 10.1192/bjp.180.1.51

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the
use of exploratory factor analysis in psychological research. *Psychological
Methods*, *4*, 272-299. doi: 10.1037/1082-989X.4.3.272

Farrell, S., Kapur, N., While, D., Appleby, L., & Windfuhr, K. (2016). Suicide in a national
student mental health patient population, 1997–2012. *Crisis*. doi:
10.1027/0227-5910/a000412

Farrer, L., Gulliver, A., Chan, J. K., Batterham, P. J., Reynolds, J., Calear, A., ... & Griffiths,
K. M. (2013). Technology-based interventions for mental health in tertiary
students: systematic review. *Journal of Medical Internet Research*, *15*, e101. doi:
10.2196/jmir.2639

Freire, C., Ferradás, M. D. M., Valle, A., Núñez, J. C., & Vallejo, G. (2016). Profiles of
psychological well-being and coping strategies among university
students. *Frontiers in Psychology*, *7*. doi: 10.3389/fpsyg.2016.01554

Galante, J., Dufour, G., Vainre, M., Wagner, A. P., Stochl, J., Croudace, T. J., ... & Jones, P.
B. (2016). Provision of a mindfulness intervention to support university
students' wellbeing and resilience to stress: preliminary results of a randomised
controlled trial. *The Lancet*, 388. doi: 10.1016/S0140-6736(16)32285-1

Galbraith, C. S., & Merrill, G. B. (2015). Academic performance and burnout: an efficient
frontier analysis of resource use efficiency among employed university students.

Journal of Further and Higher Education, *39*, 255-277. doi:
10.1080/0309877X.2013.858673

Gatti, F. M., Brivio, E., & Calciano, S. (2016). "Hello! I know you help people here,
right?": A qualitative study of young people's acted motivations in text-based
counseling. *Children and Youth Services Review*, *71*, 27-35. doi:
10.1016/j.childyouth.2016.10.029

Geisner, I. M., Varvil-Weld, L., Mittmann, A. J., Mallett, K., & Turrisi, R. (2015). Brief web-
based intervention for college students with comorbid risky alcohol use and
depressed mood: Does it work and for whom? *Addictive Behaviors*, *42*, 36-43.
doi: 10.1016/j.addbeh.2014.10.030*

Giota, K. G., & Kleftaras, G. (2014). Mental health apps: innovations, risks and ethical
considerations. *E-Health Telecommunication Systems and Networks*, *3*, 19. doi:
10.4236/etsn.2014.33003

Goldberg, A. J., & Petasnick, W. D. (2010). Managing in a downturn how do you manage
in a global financial recession? *Journal of Healthcare Management*, *55*, 149-153.

Goldberg, D., & Williams, P. (1991). *A user's guide to the General Health Questionnaire.*
London: NFER, Nelson.

Goldberg, J. C. (1980). Counseling the adult learner: A selective review of the
literature. *Adult Education Quarterly*, *30*, 67-81.

Goodwin, J., Behan, L., Kelly, P., McCarthy, K., & Horgan, A. (2016). Help-seeking
behaviors and mental well-being of first year undergraduate university students.
Psychiatry Research, *246*, 129-135. doi: 10.1016/j.psychres.2016.09.015

Goss, S., & Anthony, K. (2009). Developments in the use of technology in counselling
and psychotherapy. *British Journal of Guidance & Counselling*, *37*, 223-230. doi:
10.1080/03069880902956967

Grundy, Q. H., Wang, Z., & Bero, L. A. (2016). Challenges in assessing mobile health app
quality: A systematic review of prevalent and innovative methods. *American*
Journal of Preventive Medicine, *51*, 1051-1059. doi:
10.1016/j.amepre.2016.07.009

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An
experiment with data saturation and variability. *Field methods*, *18*, 59-82.

Hansen, R. S. (2006). Benefits and problems with student teams: Suggestions for improving team projects. *Journal of Education for Business*, *82*, 11-19. doi: 10.3200/JOEB.82.1.11-19

Harmon, S. C., Lambert, M. J., Smart, D. M., Hawkins, E., Nielsen, S. L., Slade, K., & Lutz, W. (2007). Enhancing outcome for potential treatment failures: Therapist–client feedback and clinical support tools. *Psychotherapy Research*, *17*, 379-392. doi: 10.1080/10503300600702331

Harris, P. J., Campbell Casey, S. A., Westbury, T., & Florida-James, G. (2016). Assessing the link between stress and retention and the existence of barriers to support service use within HE. *Journal of Further and Higher Education*, *40*, 824-845. doi: 10.1080/0309877X.2015.1014316

Hatcher, R. L., & Gillaspy, J. A. (2006). Development and validation of a revised short version of the Working Alliance Inventory. *Psychotherapy Research*, *16*, 12-25. doi: 10.1080/10503300500352500

Hatchett, G. T., & Park, H. L. (2004). Relationships among optimism, coping styles, psychopathology, and counseling outcome. *Personality and Individual Differences*, *36*, 1755-1769. doi: 10.1016/j.paid.2003.07.014

Higher Education Funding Council for England (2009). Enhancing learning and teaching through the use of technology: A revised approach to HEFCE's strategy for e-learning. Bristol: Higher Education Funding Council for England. Retrieved from: http://www.hefce.ac.uk/pubs/hefce/2009/09_12/09_12.pdf

Henninger, I., William, R., Eshbaugh, E. M., Osbeck, A., & Madigan, C. (2016). Perceived social support and roommate status as predictors of college Student loneliness. *Journal Of College & University Student Housing*, 42, 46-59.

Hill, A., Roth, T. (2016). Competences required to deliver effective counselling in further education. BACP http://www.bacp.co.uk/ethics/competences_and_curricula/ Accessed: 3 Nov 2016.

Holdsworth, S., Turner, M., & Scott-Young, C. M. (2017). … Not drowning, waving. Resilience and university: a student perspective. *Studies in Higher Education*. doi: 10.1080/03075079.2017.1284193

Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image*, *17*, 100-110. doi: 10.1016/j.bodyim.2016.02.008.

Holm-Hadulla, R. M., & Koutsoukou-Argyraki, A. (2015). Mental health of students in a globalized world: Prevalence of complaints and disorders, methods and effectivity of counseling, structure of mental health services for students. *Mental Health & Prevention*, *3*, 1-4. doi: 10.1016/j.mhp.2015.04.003

Hope, V., & Henderson, M. (2014). Medical student depression, anxiety and distress outside North America: a systematic review. *Medical Education*, *48*, 963-979. doi: 10.1111/medu.12512

Horstmanshof, L. (2004). Using SMS as a way of providing connection and community for first year students. In R. Atkinson, C. McBeath, D. Jonas-Dwyer & R. Phillips (Eds), *Beyond the comfort zone*: *Proceedings of the 21st Ascilite Conference* (pp. 423-427). Perth, 5-8 December. Retrieved from: http://www.ascilite.org.au/conferences/perth04/procs/horstmanshof.html

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, *46*, 3-10. doi: 10.1016/j.jadohealth.2009.08.008

Ibrahim, A. K., Kelly, S. J., Adams, C. E., & Glazebrook, C. (2013). A systematic review of studies of depression prevalence in university students. *Journal of Psychiatric Research*, *47*, 391-400. doi: 10.1016/j.jpsychires.2012.11.015

Institute for Employment Studies (2015). Understanding the provision for students with mental health problems and intensive support needs. Retrieved from: http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/Independentresearch/2015/Understanding,provision,for,students,with,mental,health,problems/HEFCE2015_mh_.pdf

Izgiç, F., Akyüz, G., Doğan, O., & Kuğu, N. (2004). Social phobia among university students and its relation to self-esteem and body image. *The Canadian Journal of Psychiatry*, *49*, 630-634. doi: 10.1177/070674370404900910

Jacobson, N. S., & Truax, P. (1991). Clinical significance: a statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, *59*, 12-19.

Julal, F. S. (2013). Use of student support services among university students: Associations with problem-focused coping, experience of personal difficulty and psychological distress. *British Journal of Guidance & Counselling*, *41*, 414-425. doi: 10.1080/03069885.2012.741680

Julal, F. S. (2016). Predictors of undergraduate students' university support service use during the first year of university. *British Journal of Guidance & Counselling*, *44*, 371-381. doi: 10.1080/03069885.2015.1119232

Kahn, J. H. (2006). Factor analysis in counseling psychology research, training, and practice: Principles, advances, and applications. *The Counseling Psychologist*, *34*, 684–718. doi: 10.1177/0011000006286347

Kass, A. E., Trockel, M., Safer, D. L., Sinton, M. M., Cunning, D., Rizk, M. T., . . . Taylor, C. B. (2014). Internet-based preventive intervention for reducing eating disorder risk: A randomized controlled trial comparing guided with unguided self-help. *Behavioral Research Therapy*, *63*, 90-98. doi: 10.1016/j.brat.2014.09.010*

Kemp, A. (2002). Opening doors: widening participation in higher education for students who experience mental health issues. *A Life in the Day*, *6*, 26-29. doi: 10.1108/13666282200200023

Kendrick, T., El-Gohary, M., Stuart, B., Gilbody, S., Churchill, R., Aiken, L., ... & Moore, M. (2016). Routine use of patient reported outcome measures (PROMs) for improving treatment of common mental health disorders in adults. *The Cochrane Library*. doi: 10.1002/14651858.CD011119.pub2

Khan, M. S., Mahmood, S., Badshah, A., Ali, S. U., & Jamal, Y. (2006). Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan. *Journal of Pakistan Medical Association*, *56*, 583-586.

King, R., Bambling, M., Lloyd, C., Gomurra, R., Smith, S., Reid, W., & Wegner, K. (2006). Online counselling: The motives and experiences of young people who choose the Internet instead of face to face or telephone counselling. *Counselling and Psychotherapy Research*, *6*, 169-174. doi: 10.1080/14733140600848179

Kirkwood, A., & Price, L. (2014). Technology-enhanced learning and teaching in higher education: what is 'enhanced'and how do we know? A critical literature review. *Learning, Media and Technology*, *39*, 6-36. doi: 10.1080/17439884.2013.770404

Kirsch, D. J., Doerfler, L. A., & Truong, D. (2015). Mental health issues among college students: who gets referred for psychopharmacology evaluation? *Journal of American College Health*, *63*, 50-56. doi: doi.org/10.1080/07448481.2014.960423

Kitzrow, M. A. The mental health needs of today's college students: Challenges and recommendations, *NASPA*. 2003;41:167-81

Krägeloh, C. U., Czuba, K. J., Billington, D. R., Kersten, P., & Siegert, R. J. (2015). Using feedback from patient-reported outcome measures in mental health services: a scoping study and typology. *Psychiatric Services*, *66*, 224-241. doi: 10.1176/appi.ps.201400141

Kreß, V., Sperth, M., Hofmann, F.-H., & Holm-Hadulla, R. M. (2015). Psychological complaints of students: A comparison of field samples with clients of a counseling service at a typical German University. *Mental Health & Prevention*, *3*, 41–47. doi: 10.1016/j.mhp.2015.04.002

Lambert, N. M., Stillman, T. F., Hicks, J. A., Kamble, S., Baumeister, R. F., & Fincham, F. D. (2013). To belong is to matter: Sense of belonging enhances meaning in life. *Personality and Social Psychology Bulletin*, *39*, 1418-1427.

Landis, J. R., & Koch, G. G. (1977). An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics*, *33,* 363-374.

Lee, D., Olson, E. A., Locke, B., Michelson, S. T., & Odes, E. (2009). The effects of college counseling services on academic performance and retention. *Journal of College Student Development*, *50*, 305-319. doi: 10.1353/csd.0.0071*

Lester, D. (2006). Etherapy: Caveats from experiences with telephone therapy. *Psychological Reports*, *99*, 894–896. doi: 10.2466/PR0.99.3.894-896

Levine, C. S. (2017). Psychological buffers against poor health: The role of the socioeconomic environment. *Current Opinion in Psychology*, *18*, 137-140. doi: 10.1016/j.copsyc.2017.08.028

Lewis, J., Coursol, D., & Khan, L. (2001). College students@ tech. edu: A study of comfort and the use of technology. *Journal of College Student Development*, *42*, 625-31. doi: 10.2466/PR0.99.3.894-896

Lindhiem, O., Bennett, C. B., Trentacosta, C. J., & McLear, C. (2014). Client preferences
affect treatment satisfaction, completion, and clinical outcome: a meta-
analysis. *Clinical Psychology Review*, *34*, 506-517. doi:
10.1016/j.cpr.2014.06.002

Lipson, S. K., Zhou, S., Wagner III, B., Beck, K., & Eisenberg, D. (2016). Major differences:
Variations in undergraduate and graduate student mental health and treatment
utilization across academic disciplines. *Journal of College Student
Psychotherapy*, *30*, 23-41. doi: 10.1080/87568225.2016.1105657

Locke, B. D., McAleavey, A. A., Zhao, Y., Lei, P. W., Hayes, J. A., Castonguay, L. G., ... &
Lin, Y. C. (2012). Development and initial validation of the Counseling Center
Assessment of Psychological Symptoms–34. *Measurement and Evaluation in
Counseling and Development*, *45*, 151-169. doi: 10.1177/0748175611432642

Locke, B. D., Buzolitz, J. S., Lei, P.-W., Boswell, J. F., McAleavey, A. a, Sevig, T. D., ...
Hayes, J. A. (2011). Development of the Counseling Center Assessment of
Psychological Symptoms-62 (CCAPS-62). *Journal of Counseling Psychology*, *58*,
97–109. doi: 10.1037/a0021282

Locklard, J. A., Hayes, A. J., Graceffo, M. J., & Locke, B. D. (2013). Effective counselling
for racial/ethnic minority clients: examining changes using a practice research
network. *Journal of College Counselling*, *16*, 243-257. doi: 10.1002/j.2161-
1882.2013.00040.x*

Lockard, A. J., Hayes, J. A., McAleavey, A. A., & Locke, B. D. (2012). Change in academic
distress: Examining differences between a clinical and nonclinical sample of
college students. *Journal of College Counseling*, *15*, 233-246. doi:
10.1002/j.2161-1882.2012.00018.x

Longo, D. A., Lent, R. W., & Brown, S. D. (1992). Social cognitive variables in the
prediction of client motivation and attrition. *Journal of Counseling
Psychology*, *39*, 447-452. doi: 10.1037/0022-0167.39.4.447

Lucock, M., Halstead, J., Leach, C., Barkham, M., Tucker, S., Randal, C., ... & Saxon, D.
(2015). A mixed-method investigation of patient monitoring and enhanced
feedback in routine practice: Barriers and facilitators. *Psychotherapy
Research*, *25*, 633-646. doi: 10.1080/10503307.2015.1051163

Lutz, W., Leon, S. C., Martinovich, Z., Lyons, J. S., Stiles, W. B. (2007). Therapist effects in outpatient psychotherapy: A three-level growth curve approach. *Journal of Counselling Psychology*, *54,* 32-39. doi: 10.1037/0022-0167.54.1.32

Luxton, D. D., McCann, R. A., Bush, N. E., Mishkind, M. C., & Reger, G. M. (2011). mHealth for mental health: Integrating smartphone technology in behavioral healthcare. *Professional Psychology: Research and Practice*, *42*, 505-512. doi: 10.1037/a0024485

Lynch, S., Gander, M. L., Kohls, N., Kudielka, B., & Walach, H. (2011). Mindfulness-based coping with university life: A non-randomized wait-list-controlled pilot evaluation. *Stress and Health*, *27*, 365-375. doi: 10.1002/smi.1382

Macaskill, A. (2013). The mental health of university students in the United Kingdom. *British Journal of Guidance & Counselling*, *41*, 426-441. doi: 10.1080/03069885.2012.743110

Mair, D., (2016). *Short-term counselling in higher education: Context, theory and practice*. London: Routledge.

Malcolm, D (2010, December 13). What are the costs of study and living? Retrieved from: https://www.nus.org.uk/en/advice/money-and-funding/average-costs-of-living-and-study/

Mallen, M. J., Vogel, D. L., Rochlen, A. B., & Day, S. X. (2005). Online counseling: Reviewing the literature from a counseling psychology framework. *The Counseling Psychologist*, *33*, 819–871.

Margrove, K. L. (2013). Promoting the wellbeing and social inclusion of students through visual art at university: an Open Arts pilot project. *Journal of Further and Higher Education*, *39*, 147-162. doi: 10.1080/0309877x.2013.778967*

Martin, V., & Thomas, M. C. (2000). A model psychoeducation group for shy college students. *Journal for Specialists in Group Work*, *25*, 79-88. doi: 10.1080/01933920008411453

Martin, J. L., Hess, T. R., Ain, S. C., Nelson, D. L., & Locke, B. D. (2012). Collecting multidimensional client data using repeated measures: Experiences of clients and counselors using the CCAPS-34. *Journal of College Counseling*, *15*, 247–261. doi: 10.1002/j.2161-1882.2012.00019.x

McAleavey, A. A., Nordberg, S. S., Hayes, J. A., Castonguay, L. G., Locke, B. D., & Lockard, A. J. (2012). Clinical validity of the Counseling Center Assessment of Psychological Symptoms-62 (CCAPS-62): Further evaluation and clinical applications. *Journal of Counseling Psychology*, *59*, 575–590. doi: 10.1037/a0029855

McCarthy, C. (2016). Improve safety of your international students. *Campus Security Report*, *12*, 1-6. doi: 10.1002/casr.30143

McCrone, P., Knapp, M., Proudfoot, J., Ryden, C., Cavanagh, K., Shapiro, D. A., ... & Marks, I. (2004). Cost-effectiveness of computerised cognitive–behavioural therapy for anxiety and depression in primary care: randomised controlled trial. *The British Journal of Psychiatry*, *185*, 55-62. doi: 10.1192/bjp.185.1.55

McIntyre, J. C., Worsley, J., Corcoran, R., Woods, P. H., & Bentall, R. P. (submitted). Academic and non-academic predictors of student psychological distress: The role of social identity and isolation.

McKenzie, K., Murray, K. R., Murray, A. L., & Richelieu, M. (2015). The effectiveness of university counselling for students with academic issues. *Counselling and Psychotherapy Research*, *15*, 284-288. doi: 10.1002/capr.12034

McVey, G. L., Kirsh, G., Maker, D., Walker, K. S., Mullane, J., Laliberte, M., . . . Banks, L. (2010). Promoting positive body image among university students: A collaborative pilot study. *Body Image*, *7*, 200-204. doi: 10.1016/j.bodyim.2010.02.005*

Meadows, M. E. (1975). Assessment of college counseling: A follow-up study. *Journal of Counseling Psychology*, *22*, 463-470.

Meaney-Tavares, R., & Hasking, P. (2013). Coping and regulating emotions: a pilot study of a modified dialectical behavior therapy group delivered in a college counseling service. *Journal of American College Health*, *61*, 303-309. doi: 10.1080/07448481.2013.791827*

Mellor-Clark, J. & Barkham, M. (2006). The CORE System: Developing and delivering practice-based evidence through quality evaluation. In C. Feltham & I. Horton (eds.), *Handbook of counselling and psychotherapy*. 2nd Edition. London: Sage Publications. (pp. 207-224).

Mental Wellbeing in Higher Education Working Group (2015). *Student mental wellbeing in higher education: Good practice guide*. London: Universities UK.

Mintz, L. B., & O'Halloran, M. S. (2000). The Eating Attitudes Test: validation with DSM-IV eating disorder criteria. *Journal of Personality Assessment*, *74*, 489-503. doi: 10.1207/S15327752JPA7403_11

Mohr, D. C., Burns, M. N., Schueller, S. M., Clarke, G., & Klinkman, M. (2013). Behavioral intervention technologies: evidence review and recommendations for future research in mental health. *General Hospital Psychiatry*, *35*, 332-338. doi: 10.1016/j.genhosppsych.2013.03.008

Moreau, M.-P., & C. Leathwood. 2006. Balancing paid work and studies: Working (-class) students in higher education. *Studies in Higher Education*, *31*, 23–42. doi: 10.1080/03075070500340135

Mowbray, C. T., Megivern, D., Mandiberg, J. M., Strauss, S., Stein, C. H., Collins, K., ... & Lett, R. (2006). Campus mental health services: recommendations for change. *American Journal of Orthopsychiatry*, *76*, 226-237. doi: 10.1037/0002-9432.76.2.226

Muellbauer, J., & Murphy, A. (1997). Booms and busts in the UK housing market. *The Economic Journal*, *107*, 1701-1727.

Mullin, A., Dear, B. F., Karin, E., Wootton, B. M., Staples, L. G., Johnston, L., ... & Titov, N. (2015). The UniWellbeing course: a randomised controlled trial of a transdiagnostic internet-delivered cognitive behavioural therapy (CBT) programme for university students with symptoms of anxiety and depression. *Internet Interventions*, *2*, 128-136. doi: 10.1016/j.invent.2015.02.002

Mulrenan, P., Atkins, J., & Cox, S. (2017). 'I get up in the night to cry': The impact of homelessness on higher education students in London, UK. *Critical Social Policy, 1,* 1-12. doi:

Murray, A. L., McKenzie, K., Murray, K. R., & Richelieu, M. (2015). An analysis of the effectiveness of university counselling services. *British Journal of Guidance & Counselling*, *44*, 130-139. doi: 10.1080/03069885.2015.1043621

Newman, M. L., & Greenway, P. (1997). Therapeutic effects of providing MMPI-2 test feedback to clients at a university counseling service: A collaborative approach. *Psychological Assessment*, *9*, 122-131.

Newman, M. G., Kachin, K. E., Zuellig, A. R., Constantino, M. J., & Cashman-McGrath, L. (2003). The Social Phobia Diagnostic Questionnaire: Preliminary validation of a new self-report diagnostic measure of social phobia. *Psychological Medicine*, *33*, 623-635. doi: 10.1017/S0033291703007669

Office for National Statistics (2015). How much do people binge drink in Great Britain? Retrieved March 22, 2017, from http://visual.ons.gov.uk/binge-drinking/

O'Keeffe, P. (2013). A sense of belonging: Improving student retention. *College Student Journal*, 47, 605-613.

Osborne, M. (2003). Policy and practice in widening participation: a six country comparative study of access as flexibility. *International Journal of Lifelong Education*, *22*, 43-58. doi: 10.1080/02601370304826.

Parker, Z. J., & Waller, G. (2015). Factors related to psychotherapists' self-assessment when treating anxiety and other disorders. *Behaviour Research and Therapy*, *66*, 1-7. doi: 10.1016/j.brat.2014.12.010

Parliament UK. (2017). Universities: Mental Health Services: Written question – 71358. Department for Education, UK.

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, *30*, 227-238. doi: 10.1016/j.appdev.2008.12.010

Pidgeon, A. M., Rowe, N. F., Stapleton, P., Magyar, H. B., & Lo, B. C. (2014). Examining characteristics of resilience among University students: An international study. *Open Journal of Social Sciences*, *2*, 14-22. doi: 10.4236/jss.2014.211003

Pistorello, J., Fruzzetti, A. E., MacLane, C., Gallop, R., & Iverson, K. M. (2012). Dialectical behavior therapy (DBT) applied to college students: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*, *80*, 982-994. doi: 10.1037/a0029096*

Poll, H. (2014). Pearson student mobile device survey. Retrieved November, 17, 2015.

Pokorny, H., Holley, D., & Kane, S. (2017). Commuting, transitions and belonging: the experiences of students living at home in their first year at university. *Higher Education*, *74,* 543-558. doi: 10.1007/s10734-016-0063-3

Posternak, M. A., & Miller, I. (2001). Untreated short-term course of major depression: A meta-analysis of outcomes from studies using wait-list control groups. *Journal of Affective Disorders*, *66*, 139–146. doi: 10.1016/S0165-0327(00)00304-9

Powell, A. C., Chen, M., & Thammachart, C. (2017). The economic benefits of mobile apps for mental health and telepsychiatry services when used by adolescents. *Child and Adolescent Psychiatric Clinics of North America*, *26*, 125-133. doi: 10.1016/j.chc.2016.07.013

Prince, J. P. (2015). University student counseling and mental health in the United States: Trends and challenges. *Mental Health & Prevention*, *3*, 5–10. doi: 10.1016/j.mhp.2015.03.001

Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders*, *148*(1), 1-11. doi: 10.1016/j.jad.2012.11.026

Ramsden, B. (2010). Patterns of higher education institutions in the UK. Retrieved from: http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2010/patterns-and-trends-uk-higher-education-10.pdf

Randall, E. M., & Bewick, B. M. (2016). Exploration of counsellors' perceptions of the redesigned service pathways: A qualitative study of a UK university student counselling service. *British Journal of Guidance & Counselling*, *44*, 86–98. doi: 10.1080/03069885.2015.1017801

Reynolds, P., & Morris, T. (2002). Intimacy as we know it. *Counselling and Psychotherapy Journal*, *13*, 11-15.

Reynolds, E. K., Macpherson, L., Tull, M. T., Baruch, D. E., & Lejuez, C. W. (2011). Integration of the brief behavioral activation treatment for depression (BATD) into a college orientation program: depression and alcohol outcomes. *Journal of Counselling Psychology*, *58*, 555-564. doi: 10.1037/a0024634*

Reynolds, D. J., Stiles, W. B., & Grohol, J. M. (2006). An investigation of session impact and alliance in Internet based psychotherapy: Preliminary results. *Counseling and Psychotherapy Research*, *6*, 164–168. doi: 10.1080/14733140600853617

Richards, D. (2009). Features and benefits of online counselling: Trinity College online mental health community. *British Journal of Guidance & Counselling*, *37*, 231-242. doi: 10.1080/03069880902956975*

Richards, D., & Tangney, B. (2008). An informal online learning community for student mental health at university: a preliminary investigation. *British Journal of Guidance & Counselling*, *36*, 81-97. doi: 10.1080/03069880701715671*

Robb, C. A. (2017). College Student Financial Stress: Are the Kids Alright? *Journal of Family and Economic Issues*, doi: 10.1007/s10834-017-9527-6

Roberts, L. W., Warner, T. D., Lyketsos, C., Frank, E., Ganzini, L., & Carter, D. (2001). Perceptions of academic vulnerability associated with personal illness: a study of 1,027 students at nine medical schools. *Comprehensive Psychiatry*, *42*, 1-15. doi: 10.1053/comp.2001.19747

Robinson, P. D. (1997). Premature termination in a university counseling center: A survival analysis.

Royal College of Psychiatrists (2011). *Mental health of students in higher education*. College Report CR166. Royal College of Psychiatrists. London: September 2011.

Rückert, H.-W. (2015). Students' mental health and psychological counselling in Europe. *Mental Health & Prevention*, *3*, 34–40. doi: 10.1016/j.mhp.2015.04.006

Russell, G., & Shaw, S. (2009). A study to investigate the prevalence of social anxiety in a sample of higher education students in the United Kingdom. *Journal of Mental Health*, *18*, 198-206. doi: 10.1080/09638230802522494

Russell, J., Thomson, G., & Rosenthal, D. (2008). International student use of university health and counselling services. *Higher Education*, *56*, 59-75.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*, 1069.

Salanova, M., Schaufeli, W., Martínez, I., & Bresó, E. (2010). How obstacles and facilitators predict academic performance: The mediating role of study burnout

and engagement. *Anxiety, Stress & Coping*, *23*, 53-70. doi: 10.1080/10615800802609965

Sarmento, M. (2015). A "Mental Health Profile" of higher education students. *Procedia - Social and Behavioral Sciences*, *191*, 12–20. doi: 10.1016/j.sbspro.2015.04.606

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*, 107-115. doi: 10.1111/j.1365-2648.2007.04569.x

Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, *88*, 791-804.

Schaper, L., & Pervan, G. (2007). A model of information and communication technology acceptance and utilisation by occupational therapists. *Student Health Technology Information*, *130*, 91–101.

Richards, D., & Tangney, B. (2008). An informal online learning community for student mental health at university: a preliminary investigation. *British Journal of Guidance & Counselling*, *36*, 81-97. doi: 10.1080/03069880701715671*

Schueller, S. M., & Parks, A. C. (2012). Disseminating self-help: positive psychology exercises in an online trial. *Journal of Medical Internet Research*, *14*, e63. doi: 10.2196/jmir.1850

Scott-Clayton, J., & Minaya, V. (2016). Should student employment be subsidized? Conditional counterfactuals and the outcomes of work-study participation. *Economics of Education Review*, *52*, 1-18. doi: 10.1016/j.econedurev.2015.06.006

Sedrati, H., Nejjari, C., Chaqsare, S., & Ghazal, H. (2016). Mental and physical mobile health apps: Review. *Procedia Computer Science*, *100*, 900-906. doi: 10.1016/j.procs.2016.09.241

Short, E. E., Fernandez, A., Borsari, B., Hustad, J. T., & Wood, M. (2011). Does clinician continuity over two brief motivational sessions improve outcomes in college students? *Journal of Substance Abuse Treatment*, *41*, 313-320. doi: 10.1016/j.jsat.2011.04.007*

Sinclair, A., Barkham, M., Evans, C., Connell, J., & Audin, K. (2005). Rationale and
        development of a general population well-being measure: Psychometric status
        of the GP-CORE in a student sample. *British Journal of Guidance and
        Counselling*, *33*, 153–173. doi: 10.1080/03069880500132581

Skinner, A. E. G., & Latchford, G. (2006). Attitudes to counselling via the Internet: A
        comparison between in-person counselling clients and Internet support group
        users. *Counselling and Psychotherapy Research*, *6*, 158–163. doi:
        10.1080/14733140600853641

Smith, K. J., Subich, L. M., & Kalodner, C. (1995). The transtheoretical model's stages and
        processes of change and their relation to premature termination. *Journal of
        Counseling Psychology*, *42*, 34-39.

Sommers-Flanagan, R., Barrett-Hakanson, T., Clarke, C., & Sommers-Flanagan, J. (2000).
        A psychoeducational school-based coping and social skills group for depressed
        students. *Journal for Specialists in Group Work*, *25*, 170-190. doi:
        10.1080/01933920008411460

Spitzer, R.L., Kroenke, K., & Williams J. B. W. (1999). Validation and utility of a self-report
        version of PRIME-MD: The PHQ primary care study. *JAMA*, *282*, 1737-1744. doi:
        10.1001/jama.282.18.1737

Spitzer, R. L., Kroenke, K., Williams, J. B. W., Lowe., B. (2006). A brief measure for
        assessing generalized anxiety disorder: The GAD-7. *Archives of Internal
        Medicine*, *166*, 1092-1097. doi: 10.1001/archinte.166.10.1092

Stallman, H. M. (2010). Psychological distress in university students: A comparison with
        general population data. *Australian Psychologist*, *45*, 249-257. doi:
        10.1080/00050067.2010.482109

Stead, L. F., Perera, R., & Lancaster, T. (2006). Telephone counselling for smoking
        cessation. *The Cochrane Library*. doi: 10.1002/14651858.CD002850.pub2

Steinert, C., Stadter, K., Stark, R., & Leichsenring, F. (2017). The effects of waiting for
        treatment: A meta-analysis of waitlist control groups in randomized controlled
        trials for social anxiety disorder. *Clinical Psychology & Psychotherapy*, *24*, 649-
        660. doi: 10.1002/cpp.2032

Stewart, D. W. (1996). Predicting counselling service utilization patterns with the MMPI-2 College Maladjustment Scale. *Canadian Journal of Counselling*, 30, 211-216.

Stewart, L. A., Dispenza, F., Parker, L., Chang, C. Y., & Cunnien, T. (2014). A pilot study assessing the effectiveness of an animal-assisted outreach program. *Journal of Creativity in Mental Health*, *9*, 332-345. doi: 10.1080/15401383.2014.892862*

Stice, E., Marti, C. N., & Cheng, Z. H. (2014). Effectiveness of a dissonance-based eating disorder prevention program for ethnic groups in two randomized controlled trials. *Behavioral Research Therapy*, *55*, 54-64. doi: 10.1016/j.brat.2014.02.002*

Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: students with mental health problems—a growing problem. *International Journal of Nursing Practice*, *16*, 1-6. doi: 10.1111/j.1440-172X.2009.01813.x

Sucala, M., Schnur, J.B., Constantino, M.J., Miller, S.J., Brackman, E.H., & Montgomery, E.H., (2012). The therapeutic relationship in e-therapy for mental health: a systematic review. *Journal of Medical Internet Research*, *14*, e110. doi: 10.2196/jmir.2084

Suler, J. (2004). The online disinhibition effect. *Cyberpsychology & Behavior*, *7*, 321-326.

Swan, M. (2012). Health 2050: the realization of personalized medicine through crowdsourcing, the quantified self, and the participatory biocitizen. *Journal of Personalized Medicine*, *2*, 93-118. doi: 10.3390/jpm2030093.

Tatum, T., Lundervold, D. A., & Ament, P. (2006). Abbreviated upright behavioral relaxation training for test anxiety among college students: Initial results. *International Journal of Behavioral Consultation and Therapy*, *2*, 475-479. doi: 10.1037/h0101001*

Taylor, R. (2011). University cities thrive on students. *The Guardian.* Retrieved from: http://www.theguardian.com/education/mortarboard/2011/apr/18/university-cities-students.

Taylor-Rodgers, E., & Batterham, P. J. (2014). Evaluation of an online psychoeducation intervention to promote mental health help seeking attitudes and intentions among young adults: Randomised controlled trial. *Journal of Affective Disorders*, *168*, 65-71. doi: 10.1016/j.jad.2014.06.047*

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, *27*, 237-246.

Thorley, C (2017). Not by Degrees: improving student mental health in the UK's universities. Retrieved from: https://www.ippr.org/files/2017-09/1504645674_not-by-degrees-170905.pdf

Tillfors, M., Carlbring, P., Furmark, T., Lewenhaupt, S., Spak, M., Eriksson, A., . . . Andersson, G. (2008). Treating university students with social phobia and public speaking fears: Internet delivered self-help with or without live group exposure sessions. *Depression and Anxiety*, *25*, 708-717. doi: 10.1002/da.20416*

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*, 349-357. doi: 10.1093/intqhc/mzm042

Torous, J., Chan, S. R., Tan, S. Y. M., Behrens, J., Mathew, I., Conrad, E. J., ... & Keshavan, M. (2014). Patient smartphone ownership and interest in mobile apps to monitor symptoms of mental health conditions: a survey in four geographically distinct psychiatric clinics. *JMIR Mental Health*, *1*, e5. doi: 10.2196/mental.4004

Tracey, T. J., Sherry, P., & Albright, J. M. (1999). The interpersonal process of cognitive–behavioral therapy: An examination of complementarity over the course of treatment. *Journal of Counseling Psychology*, *46*, 80-93. doi: 10.1037/0022-0167.46.1.80

Trockel, M., Manber, R., Chang, V., Thurston, A., & Taylor, C. B. (2011). An e-mail delivered CBT for sleep-health program for college students: effects on sleep quality and depression symptoms. *Journal of Clinical Sleep Medicine*, *7*, 276-281. doi: 10.5664/JCSM.1072

Turner, P. R., Valtierra, M., Talken, T. R., Miller, V. I., & DeAnda, J. R. (1996). Effect of session length on treatment outcome for college students in brief therapy. *Journal of Counseling Psychology*, *43*, 228-232.

Tynan, D (2017, February 9). Actors, teachers, therapists – think your job is safe from artificial intelligence? Think again. *The Guardian.* Retrieved from: https://www.theguardian.com/technology/2017/feb/09/robots-taking-white-collar-jobs

UCAS (2017). Undergraduate tuition fees and student loans. Retrieved from:
        https://www.ucas.com/ucas/undergraduate/finance-and-
        support/undergraduate-tuition-fees-and-student-loans

Universities UK. (2016) Patterns and trends in UK Higher Education 2016. Retrieved
        from: http://www.universitiesuk.ac.uk/facts-and-stats/data-and-
        analysis/Documents/patterns-and-trends-2016.pdf

Van Rhijn, T., Lero, D., Bridge, K., & Fritz, V. (2016). Unmet needs: Challenges to success
        from the perspectives of mature university students. Retrieved from:
        http://hdl.handle.net/10214/10478

Villacura, L., Irarrázabal, N., Dörr, A., Zamorano, C., Manosalva, J., Cánovas, C., … Barra,
        N. (2015). Mental disorders of students at the University of Chile. *Mental Health
        & Prevention*, *3*, 21–25. doi: 10.1016/j.mhp.2015.05.002

Walsemann, K. M., Gee, G. C., & Gentile, D. (2015). Sick of our loans: Student borrowing
        and the mental health of young adults in the United States. *Social Science &
        Medicine*, *124*, 85-93. doi: 10.1016/j.socscimed.2014.11.027

Waller, R., & Gilbody, S. (2009). Barriers to the uptake of computerized cognitive
        behavioural therapy: a systematic review of the quantitative and qualitative
        evidence. *Psychological Medicine*, *39*, 705-712. doi:
        10.1017/S0033291708004224.

Warwick, I., Maxwell, C., Statham, J., Aggleton, P., & Simon, A. (2008). Supporting
        mental health and emotional well-being among younger students in further
        education. *Journal of Further and Higher Education*, *32*, 1-13. doi:
        10.1080/03098770701560331

West, W. (2015). One western size fits all: Counsellor training in different countries and
        cultures. Therapy, culture, and spirituality: *Developing Therapeutic Practice*, 70-
        77. doi: 10.1057/9781137370433_6

Wilson, J. (1970). Report of the first year of a counselling service in a college of
        education. The Counsellor. 4

World Health Organization. (2005). Handbook for good clinical research practice (GCP):
        guidance for implementation. Retrieved from:
        http://apps.who.int/prequal/info_general/documents/gcp/gcp1.pdf

Wright, J. (2002). Online counselling: Learning from writing therapy. *British Journal of Guidance and Counselling*, *30*, 285-298. doi: 10.1080/030698802100002326

Yang, W., Lin, L., Zhu, W., & Liang, S. (2015). An introduction to mental health services at universities in China. *Mental Health and Prevention*, *3*, 11–16. doi: 10.1016/j.mhp.2015.04.001

Yuen, E. K., Herbert, J. D., Forman, E. M., Goetter, E. M., Juarascio, A. S., Rabin, S., ... & Bouchard, S. (2013). Acceptance based behavior therapy for social anxiety disorder through videoconferencing. *Journal of Anxiety Disorders*, *27*, 389-397. doi: 10.1016/j.janxdis.2013.03.002

References from systematic scoping review (see Chapter 2)

Attkisson, C. C., & Zwick, R. (1982). The Client Satisfaction Questionnaire: Psychometric properties and correlations with service utilization and psychotherapy outcome. *Evaluation and Program Planning*, *5*, 233-237.

Baker, S. L., Heinrichs, N., Kim, H. J., & Hofmann, S. G. (2002). The Liebowitz social anxiety scale as a self-report instrument: a preliminary psychometric analysis. *Behaviour Research and Therapy*, *40*, 701-715.

Bastien, C. H., Vallières, A., & Morin, C. M. (2001). Validation of the Insomnia Severity Index as an outcome measure for insomnia research. *Sleep Medicine*, *2*, 297-307.

Batterham, P. J., Calear, A. L., & Christensen, H. (2013). Correlates of suicide stigma and suicide literacy in the community. *Suicide and Life-Threatening Behavior*, *43*, 406-417.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory-II*. San Antonio, *78*, 490-8.

Beck, A. T., Steer, R. A., & Carbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.

Beck, A. T., Steer, R. A., *Beck Anxiety Inventory Manual*. San Antonio, TX: Harcourt Brace and Company; 1993

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, *4*, 561-571.

Berscheid, E., Walster, E., & Bohrnstedt, G. (1973). The happy American body: A survey report. *Psychology Today*, *7*, 119-131.

Burns, D. D. (1989). *The feeling good handbook: Using the new mood therapy in everyday life*. William Morrow & Co.

Burton, E., & Stice, E. (2006). Evaluation of a healthy-weight treatment program for bulimia nervosa: A preliminary randomized trial. *Behaviour Research and Therapy*, *44*, 1727-1738.

Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology*, *100*, 316.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112,* 155-159.

Collins, R. L., Parks, G. A., & Marlatt, G. A. (1985). Social determinants of alcohol consumption: the effects of social interaction and model status on the self-administration of alcohol. *Journal of Consulting and Clinical Psychology*, *53*, 189-200.

Dimeff, L. A. (Ed.). (1999). *Brief alcohol screening and intervention for college students (BASICS): A harm reduction approach*. New York: Guilford Press.

Duncan, B. L., Miller, S. D., Sparks, J. A., Claud, D. A., Reynolds, L. R., Brown, J., & Johnson, L. D. (2003). The Session Rating Scale: Preliminary psychometric properties of a "working" alliance measure. *Journal of Brief Therapy*, *3*, 3-12.

Endicott, J., Spitzer, R. L., Fleiss, J. L., & Cohen, J. (1976). The Global Assessment Scale: A procedure for measuring overall severity of psychiatric disturbance. *Archives of General Psychiatry*, *33*, 766-771.

Fairburn, C. G., & Beglin, S. (2008). Eating Disorder Examination Questionnaire (EDE-Q 6.0). In C G. Fairburn (Ed.), *Cognitive behavior therapy and eating disorders*. New York: Guildford Press.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. (1997). *Structured Clinical Interview for DSM-IV Clinical Version (SCID-I/CV)*. Washington, DC: American Psychiatric Press.

First, M., Spitzer, R., Gibbon, M., & Williams, J. (2002). *Structural Clinical Interview for DSM-IV-TR, Research Version, Non-patient Edition*. Biometrics Research, New York State Psychiatric Institute: New York.

Fischer, E. H., & Farina, A. (1995). Attitudes toward seeking professional psychological help: A shortened form and considerations for research. *Journal of College Student Development*, *36,* 368-373.

Frisch, M. B., Cornell, J., Villanueva, M., & Retzlaff, P. J. (1992). Clinical validation of the Quality of Life Inventory. A measure of life satisfaction for use in treatment planning and outcome assessment. *Psychological Assessment*, *4*, 92-98.

Frydenberg, E., & Lewis, R. (1997). Coping scale for adults: Administrator's manual, research edition. *The Australian Council for Educational Research*.

Furmark, T., Tillfors, M., Everz, P. O., Marteinsdottir, I., Gefvert, O., & Fredrikson, M. (1999). Social phobia in the general population: prevalence and sociodemographic profile. *Social Psychiatry and Psychiatric Epidemiology*, *34*, 416-424.

Griffiths, K. M., Batterham, P. J., Barney, L., & Parsons, A. (2011). The Generalised Anxiety Stigma Scale (GASS): psychometric properties in a community sample. *BMC Psychiatry*, *11*, 184-196.

Griffiths, K. M., Christensen, H., Jorm, A. F., Evans, K., & Groves, C. (2004). Effect of web-based depression literacy and cognitive–behavioural therapy interventions on stigmatising attitudes to depression. *The British Journal of Psychiatry*, *185*, 342-349.

Heinberg, L. J., Thompson, J. K., & Stormer, S. (1995). Development and validation of the sociocultural attitudes towards appearance questionnaire. *International Journal of Eating Disorders*, *17*, 81-89.

Hopko, D. R., Mahadevan, R., Bare, R. L., & Hunt, M. K. (2003). The abbreviated math anxiety scale (AMAS) construction, validity, and reliability. *Assessment*, *10*, 178-182.

Hurlbut, S. C., & Sher, K. J. (1992). Assessing alcohol problems in college students. *Journal of American College Health*, *41*, 49-58.

Killen, J. D., Taylor, C. B., Hayward, C., Haydel, K. F., Wilson, D. M., Hammer, L., ... & Strachowski, D. (1996). Weight concerns influence the development of eating disorders: A 4-year prospective study. *Journal of Consulting and Clinical Psychology*, *64*, 936.

Krakow, B., Schrader, R., Tandberg, D., Hollifield, M., Koss, M. P., Yau, C. L., & Cheng, D. T. (2002). Nightmare frequency in sexual assault survivors with PTSD. *Journal of Anxiety Disorders*, *16*, 175-190.

Linehan, M. M., & Nielsen, S. L. (1981). Suicidal behaviors questionnaire. Unpublished inventory, University of Washington, Seattle, Washington.

Linehan, M. M., Comtois, K. A., Brown, M. Z., Heard, H. L., & Wagner, A. (2006). Suicide Attempt Self-Injury Interview (SASII): development, reliability, and validity of a scale to assess suicide attempts and intentional self-injury. *Psychological Assessment*, *18*, 303-324.

Locke, B. D., McAleavey, A. A., Zhao, Y., Lei, P. W., Hayes, J. A., Castonguay, L. G., ... & Lin, Y. C. (2012). Development and initial validation of the Counseling Center Assessment of Psychological Symptoms–34. *Measurement and Evaluation in Counseling and Development*, *45*, 151-169.

Lovibond, P. F., & Lovibond. (1995). *Manual for the depression anxiety stress scales*. The Psychology Foundation of Australia Inc.

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy*, *36*, 455-470.

McAuley, E. (1992). The role of efficacy cognitions in the prediction of exercise behavior in middle-aged adults. *Journal of Behavioral Medicine*, *15*, 65-88.

McAuley, E. (1993). Self-efficacy and the maintenance of exercise participation in older adults. *Journal of Behavioral Medicine*, *16*, 103-113.

Metalsky, G. I., & Joiner, T. E. (1997). The hopelessness depression symptom questionnaire. *Cognitive Therapy and Research*, *21*, 359-384.

Miller, W. R., Moyers, T. B., Ernst, D., & Amrhein, P. (2003). *Manual for the motivational interviewing skills code,* (2nd ed.) Unpublished manual: University of New Mexico, Albuquerque, NM. Available at: http://www.motivationalinterview.org.

Pennebaker, J. W. (1982). *The psychology of physical symptoms*. New York: Springer Science & Business Media.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*, 385-401.

Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, *88*, 791-804.

Secker, J., Hacking, S., Kent, L., Shenton, J., & Spandler, H. (2009). Development of a measure of social inclusion for arts and mental health project participants. *Journal of Mental Health*, *18*, 65-72.

Slade, P. D., Dewey, M. E., Newton, T., Brodie, D., & Kiemle, G. (1990). Development and preliminary validation of the Body Satisfaction Scale (BSS). *Psychology and Health*, *4*, 213-220.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). *Manual for the state-trait anxiety inventory*. Palo Alto, CA: Consulting Psychologists Press.

Spitzer, R.L., Kroenke, K., & Williams J. B. W. (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. *JAMA*, *282*, 1737-1744. doi:10.1001/jama.282.18.1737

Stanton, A. L., Kirk, S. B., Cameron, C. L., & Danoff-Burg, S. (2000). Coping through emotional approach: scale construction and validation. *Journal of Personality and Social Psychology*, *78*, 1150-1169.

Svanborg, P., & Åsberg, M. (1994). A new self-rating scale for depression and anxiety states based on the Comprehensive Psychopathological Rating Scale. *Acta Psychiatrica Scandinavica*, *89*, 21-28.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes*, *5*. doi: 10.1186/1477-7525-5-63

Tharayil, D. P. (2012). Developing the University of the Philippines loneliness assessment scale: A cross-cultural measurement. *Social Indicators Research*, *106*, 307-321.

Van Strien, T., Frijters, J. E., Van Staveren, W. A., Defares, P. B., & Deurenberg, P. (1986). The predictive validity of the Dutch restrained eating scale. *International Journal of Eating Disorders*, *5*, 747-755.

Watson, D., & Clark, L. A. (1991). *Preliminary manual for the PANAS-X: positive and negative affect schedule-expanded form*. *Southern Methodist University*, Dallas.

Weissman, M. M., & Bothwell, S. (1976). Assessment of social adjustment by patient self-report. *Archives of General Psychiatry*, *33*, 1111-1115.

White, H. R., & Labouvie, E. W. (1989). Towards the assessment of adolescent problem drinking. *Journal of Studies on Alcohol*, *50*, 30-37.

Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Palo Alto, CA: *Stanford University Press*.

Zimmerman, M., & Coryell, W. (1987). The inventory to diagnose depression, lifetime version. *Acta Psychiatrica Scandinavica*, *75*, 495-499.