SRHE Society for Research into Higher Education

The use of computer-mediated technology to support students' mental health and wellbeing in Higher Education Settings

Research report

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Contents

Disclaimer: The views expressed in this report are the authors' and do not necessarily reflect those of the Society for Research into Higher Education

Acknowledgements

Executive Summary

Background

The mental health and wellbeing of students in Higher Education has received a great deal of attention in recent years. There is growing concern about the psychological wellbeing of this group and the role that universities should play in providing support. In parallel to these concerns, psychological services have seen the proliferation of technological developments. These vary greatly in format and range from stand-alone content and self-help material that needs little ongoing professional input to more intensive interventions, such as online counselling, that require professional involvement throughout. This project reflects upon the interface between these two territories to gain a greater understanding of how universities are using computer mediated technologies to support the mental health and wellbeing of students in the United Kingdom (UK). The following research questions were therefore posed to harness this project:

1. What types of computer-mediated mental-health and wellbeing services are provided by Higher Education Institutions?

2. What empirical research has been conducted to examine computer-mediated mental health and wellbeing support with university students?

3. What challenges and opportunities can be identified within the literature regarding the provision of computer-mediated mental health and wellbeing services for university students?

Methodology

The scoping activities associated with this project included two major components. These were (1) an audit of the publicly advertised computer mediated resources that all Higher Education Institutions in the UK make use of, and (2) a systematic review of the current literature reporting research related to the use of computer-mediated mental health and wellbeing services for this group.

(1) The audit

The audit involved reviewing the publicly available web resources of all Higher Education Institutions in the UK (n=156). An initial review of five websites helped to develop a coding frame for reviewing the subsequent resources. This identified seven types of resource:

- Stand Alone Information

- Self-Help Resources - Audio

- Self-Help Resources - Video

- Self-Help Resources - Computer Programme

- Online Therapy (professional led)

- Risk Management

- Staff Training

Each website was reviewed for content in this list and presented as descriptive statistics. To consider if different types of universities use these resources in different ways, descriptive statistics were also used to examine how the 24 Russell Group Universities utilise these resources in comparison to the whole group.

(2) The systematic review

The second element of this project consisted of two major phases, (i) a scoping phase to define search terms and (ii) the conducting of a systematic review.

The initial phase of searching involved conducting a series of test searches to help define the terms that would be used to delve deeper into this topic. During this phase seven up-to-date systematic reviews were found in relevant areas. A descriptive account of the findings from these reviews is presented.

To aid the understanding of why student populations seek online computer-mediated support, and so as not to overlap with the existing reviews summarised in phase 1, a more detailed systematic review was conducted to gain a greater insight into the help seeking behaviours of students. More specifically, the qualitative research, which provided narrative information about student experiences was summarised. Three electronic bibliographic databases (ERIC, PsycINFO, Medline) were searched for papers published before the 31st December 2019.

Findings

The findings are presented in two sections which reflect the two major components of the project.

(1) The audit

The audit fund that the use of computer-mediated support was widespread through the British Higher Education system. Table 1 presents an overview of findings from the audit. In addition to presenting the summary of the whole sample, it also presents a summary of the take-up of the 24 Russell Group universities.

	Whole Sample	Russell Group
Stand-Alone Information	78%	96%
Self Help		
- Audio	54%	88%
- Video	43%	75%
- Computer programme	46%	79%
Online Therapy	18%	92%
Risk Management	73%	29%
Staff Training	7%	13%

Table 1: The percentage of UK based Higher Education Institutions who report the use of computer-mediated support on their websites.

(2) The Systematic Review

The scoping phase of the review elicited seven systematic reviews that had been conducted focusing on this area. These papers were completed in the past six years and primarily focused upon quantitative research. In summary these papers:

- Highlight the potential of computer-mediated resources to have a positive impact upon individuals who are struggling with depressive symptomology or anxiety.

- Recommend further work to further understand the efficacy and cost effectiveness of such ways of working.

- Report that the increased access that technology can provide, anonymity and confidentiality are key advantages of such a way of working.

- Report the barriers of computer-mediated resources to be a questioning of the quality of the information found online, a scepticism around the credibility of resource developers, and a worry that they may not be fully understood when using computer-mediated communication.

Phase two of the project led to the collation of nine qualitative research papers focusing upon student help seeking behaviours. Analysis of the papers led to the development of six major themes:

- Self-Reliance

- Experience and beliefs about receiving help from Professionals

- Denial of mental health issues

- Seeking help from family and friends

- Worrying about the disclosure of mental health difficulties

- Recognition of mental health difficulties by others facilitates help seeking

A conceptual understanding of the interaction of these themes, informed by humanistic psychological theory, is presented in the full report. In this, individuals' personal characteristics and prior experiences of seeking help can be viewed as interacting with their relationships to close social networks (friends and family) and perceptions of the wider systems (e.g. the university). This may then lead to (i) individuals looking towards the adoption of self-help strategies and not seeking professional support, or (ii) individuals recognising that professional support may be helpful for the difficulties they are facing and aim to access services. In some instances, the worry that friends and family or the university might view seeking support negatively, might deter individuals from accessing professionals.

Conclusion and Recommendations

The use of technology to support students in Higher Education is widespread and varied. Currently it would appear that there is little consistency in the way that university support services use computer-mediated resources that support the mental health and wellbeing of students. Given the variety of pathways that students may travel to seek support, it seems important that the resources universities provide are multifaceted. For instance, some individuals will decide not to access professional support, but may utilise resources that are available to them, such as online self-help. In contrast, others may wish to access professional support. Given the worry and concern about disclosing mental health and wellbeing difficulties for some people, online support appears a developing, but credible, alternative to equivalent face-to-face support services.

It is recommended that Higher Education support services:

- Are mindful of the stigma that some students perceive to be associated with mental health and wellbeing difficulties. As such, services should be engaged in developing resources that mediate this worry.

- Make themselves aware of the wide array of computer-mediated support delivery models available – ranging from stand-alone content and self-help material to professionally delivered therapy. In particular we would recommend that individuals share resources and good practises to make the best use of freely available material to support student populations (a list of the resources identified in the audit is provided in the appendices of the full report).

- Continue to research computer-mediated resources to ensure that they are fit for purpose with this group. This may include examining the effectiveness of the resources and the general quality of the information that is provided.

- Understand, and make use of, the safety that individuals perceive in the delivery of online services. The disinhibition that is afforded through computer-mediated communication can lead some individuals to seek support who would not ordinarily do so. This could be particularly relevant for individuals worried about any negative impact of seeking help.

- Consider the underpinning theoretical basis for integrating a wide variety of therapeutic responses, from very different theoretical traditions, in the services on offer. This may lead to a deeper consideration of the purpose of the mental health and wellbeing services within university settings. Further, it may impact on the way this support is disseminated to existing and prospective students (e.g. is the support available to help individuals succeed in academic work or more holistic in nature).

Main Report

Background

There has been an increase in interest in student mental health in the Higher Education (HE) arena in the United Kingdom (UK). This appears to have been partly driven by a shift in expectations of education providers since fees were introduced, but also appears to be part of a broader therapeutic turn in education (Hanley, Noble, & Toor, 2017). As a consequence, referrals for mental health and wellbeing support have dramatically increased in recent years – with sources citing a 50% increase in demand between the years 2010/11 and 2014/15 (Yeung, Weale, & Perraudin, 2016). Student support services have therefore had to become flexible and creative to accommodate this increased demand. Almost inevitably, some services look towards technology for innovative and effective ways of responding to this increasing challenge.

Computers are increasingly being used to provide support for mental health and wellbeing, with 82% of young people in the UK claiming to have sought out advice online (Youthnet, 2013). Many young people and young adults report that the Internet would be their first point of call if they were to seek support (Dooley & Fitzgerald, 2012; Gray, Klein, Noyce, Sesselberg, & Cantrill, 2005). The resources on offer can vary greatly and include professionally led interventions, such as online counselling, and stand-alone applications that require no input from a professional (Pattison, Hanley, Pykhtina, & Ersahin, 2015). Such provision has become commonplace within health services, with it having the potential to extend provision and support individuals who would not ordinarily access face-to-face services. Similar trends appear evident in university settings, with many institutions recommending freely available stand-alone programmes or relaxation material to students via their websites. In some instances, universities also offer online counselling via specially developed platforms.

Rationale and Research Questions

Given both the heightened interest in the mental health and wellbeing of students in higher education and the growth in computer-mediated support, it is important to develop our understanding of how these two worlds might interact. Presently, within the UK, there appears to be no consistent way of using technology to complement more traditional face-to-face services. This project therefore aimed to systematically explore this developing practise by engaging in scoping activities that will make this process more transparent to researchers and service providers.

The three following research questions were posed:

1. What types of computer-mediated mental-health and wellbeing services are provided by Higher Education Institutions?

2. What empirical research has been conducted to examine computer-mediated mental health and wellbeing support with university students?

3. What challenges and opportunities can be identified within the literature regarding the provision of computer-mediated mental health and wellbeing services for university students?

Methodology

Two concurrent scoping activities were completed to explore how universities are currently offering computer-mediated support to students. The first of these reviewed the computer-mediated provision that the 156 universities within the UK explicitly offer their students. The second will be to conduct a systematic review of the literature (Hanley & Cutts, 2013) referring to computer-mediated mental health and wellbeing support for students in higher education.

The scoping activities will be conducted as two distinct pieces of work. The first involved auditing the existing computer-mediated mental health and wellbeing provision of universities in the UK. The second involved conducting a systematic review of the literature examining the use of computer-mediated support for this group. These are outlined in brief in turn.

Project 1: The Audit

The service audit involved reviewing the website descriptions posted on 156 university support services, all of the Higher Education Institutions (HEI) in the UK. A sample of 5 websites were examined to develop a coding frame for examining the content of the websites. The coding frame included the following items:

- Stand Alone Information
- Self-Help Resources - Audio
- Self-Help Resources - Video
- Self-Help Resources - Computer Programme
- Online Therapy (professional led)
- Risk Management

This coding frame was not viewed as exhaustive and returned to as the project continued for any additional resource types. During this process the additional element of 'Staff Training' was added and reviewed in all resources.

The publicly available content from all of the HEI websites was audited for the seven types of content noted above. A summary of the content was provided using descriptive statistics. To investigate the resource further, the whole sample scores were considered alongside those of Russell Group Universities. The Russell Group represents 24 leading UK universities that are research-intensive and viewed as world-class (Russell Group, 2019).

Where specific online resources are provided, beyond the sole provision of information on topics of interest, these are collated and listed in Appendix A.

These commonly outline the services provided by staff and provide links to online resources. A comprehensive list of the resources will be collated and categorised using thematic analysis (answering research question 1).

Project 2: The Systematic Review

The systematic review involved two distinct phases. These are discussed in turn below.

The first phase involved examining the databases with a view to refining search terms and the focus of the review. This process involved utilising core terminology to examine what literature has already been published examining the way that Higher Education Institutions make use of technology to support the mental health and wellbeing of students (answering research question 2). As this phase of the review identified a number of systematic reviews in a similar territory, it was decided to use direct the systematic review towards the help seeking behaviour of students. In particular, as a majority of the work in previous reviews was quantitative in nature, the focus was directed towards trying to obtain a rich understanding of why students might turn towards technology for support.

The second phase involved systematically examining three databases (ERIC, PsycINFO, and Medline) for key work focusing upon:

- Mental health and wellbeing (terms = mental health or mental disorder or mental problem or psychology or depression or anxiety or well-being or psychological health or distress or emotional problems or psychological problem*)

- University life (terms = university or universit* or student or student* or undergraduate or higher education or academia)

- Help seeking behaviour (terms = university or universit* or student or student* or undergraduate or higher education or academia)

The papers found through this search process were collated and examined for relevance by first checking titles and abstracts before moving on to whole papers. The quality was examined using the criteria for good quality qualitative research derived by Elliott, Fischer and Rennie (Elliott, Fischer, & Rennie, 1999) (see Appendix B – for an overview of the quality checking processes). During this process, reference lists were examined for additional relevant papers. The final selection of papers were brought together using a meta-ethnographic approach to synthesise findings across studies; the steps of this are outlined in Figure 1 (Noblit & Hare, 1988). This systematic approach translates ideas, concepts, and metaphors across different studies and is increasingly seen as a favourable approach to synthesising qualitative data (Munro et al., 2007). In the first phase, one author

(SX) read and immersed themselves in the extracted first-order data and second-order themes. In the second phase, the author grouped themes capturing similar concepts together. In the third phase of "third order interpretations", the author synthesised metaphors and concepts together across the studies within each of the agreed theme clusters to elucidate more refined third-order constructs (Noblit & Hare, 1988; Thomas & Harden, 2008).
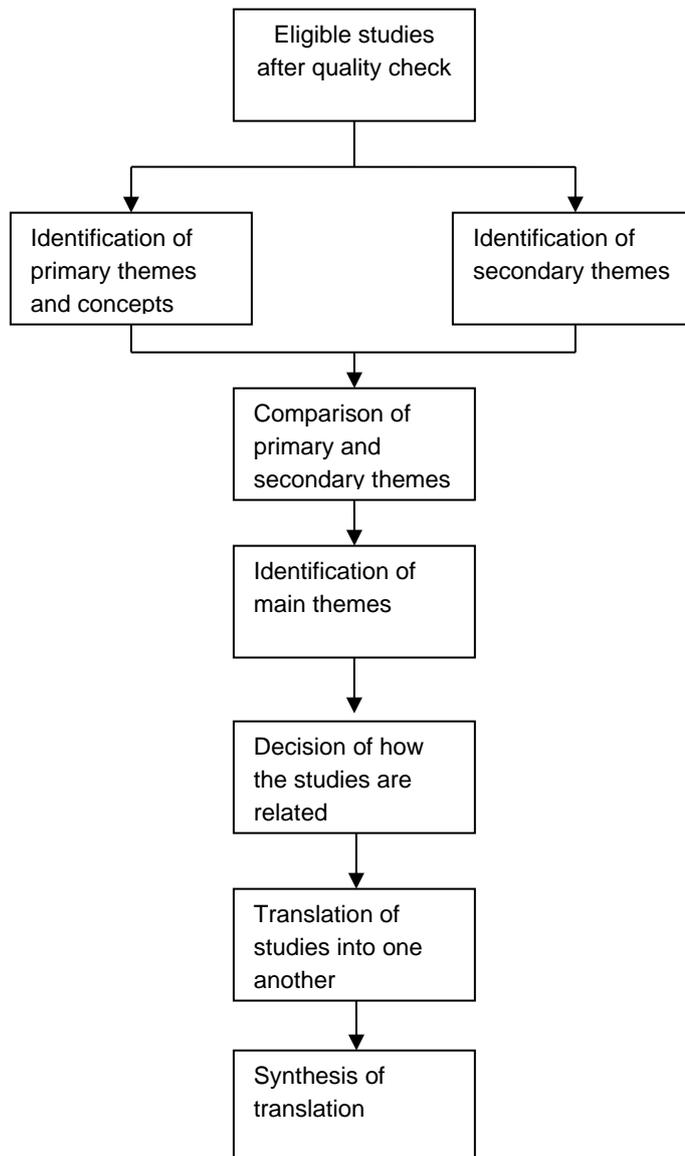
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                    ┌─────────────────┐
                    │ Eligible studies │
                    │after quality check│
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    ┌─────────────────┐     ┌─────────────────┐
    │ Identification of│     │ Identification of│
    │  primary themes  │     │ secondary themes │
    │   and concepts   │     │                  │
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                │ Comparison of    │
                │ primary and      │
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                │ Identification of│
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                │ Decision of how  │
                │ the studies are  │
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                │ Translation of   │
                │ studies into one │
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                │ Synthesis of     │
                │ translation      │
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Figure 1. The Meta-ethnographic process

The final element of the analysis involved reviewing the audit information alongside the research and theoretical literature that is identified in the two review phases. Doing so provided an explicit overview of the areas that have received more systematic attention than others and helped identify current challenges and opportunities in this field (research question 3). This can then be used to guide future research or, in the case of university providers, inform clinical choices.

Ethical procedures

Both projects adhered to ethical procedures of the University of the first author. As this work was solely a desk-based piece of research there were no issues related to working directly with human participants. As such ethical review by the University Research Ethics Committee was not deemed necessary.

Findings

This findings section is divided up into two major components. The first reflects upon the findings from the audit and the second the systematic review.

The Audit

The audit involved reviewing the websites of 156 universities. As noted above, a coding frame was established to review these websites. Table 1 provides a summary of the percentages of university support services that explicitly noted having the resources. In addition to considering the sample as a whole, the Russell Group Universities were singled out to offer a comparison.

	Whole Sample	Russell Group
Information	78%	96%
Self Help		
- Audio	54%	88%
- Video	43%	75%
- Computer prog	46%	79%
Online Therapy	18%	92%
Risk Management	73%	29%
Staff Training	7%	13%

Table 1: The percentage of UK based Higher Education Institutions who report the use of computer-mediated support on their websites.

The Systematic Review

As noted in the methodology section, the systemic review was divided up into two main components. The initial scoping phase identified a series of systematic reviews in similar areas to the initial proposal for this project. Table 2 provides a list of these papers in full.

Authors and date	Paper title
1 (Harrer et al., 2019)	Internet interventions for mental health in university students: A systematic review and meta-analysis.
2 (Lattie et al., 2019)	Digital Mental Health Interventions for Depression, Anxiety, and Enhancement of Psychological Well-Being Among College Students: Systematic Review.
3 (Montagni et al., 2019)	Mental Health-Related Digital Use by University Students: A Systematic Review.
4 (Huang, Nigatu, Smail-Crevier, Zhang, & Wang, 2018)	Interventions for common mental health problems among university and college students: A systematic review and meta-analysis of randomized controlled trials.
5 (Conley, Durlak, Shapiro, Kirsch, & Zahniser, 2016)	A Meta-Analysis of the Impact of Universal and Indicated Preventive Technology-Delivered Interventions for Higher Education Students.
6 (Davies, Morriss, & Glazebrook, 2014)	Computer-Delivered and Web-Based Interventions to Improve Depression, Anxiety, and Psychological Well-Being of University Students: A Systematic Review and Meta-Analysis.
7 (Farrer et al., 2013)	Technology-based interventions for mental health in tertiary students: Systematic review.

Table 2: A list of recent systematic review focusing upon computer-mediated mental health support for students in higher education

As might be evident from the titles of the reviews, a majority of them focus upon quantitative research focusing upon specific interventions for commonly described mental health issues (e.g. the symptoms associated with depression or anxiety). On the whole it is noted that the resources on offer generally have a positive impact on the wellbeing of people using them. Further work in this area is however suggested as necessary to understand more fully the efficacy and cost effectiveness of such services.

In addition to the reviews of specific interventions the work also summarises the advantages and barriers of such work (see Montani et al. (2018) in particular). This work highlights that computer-mediated resources offer the opportunity to increase accessibility for support services. Further, students can feel disinhibited when accessing online support and value resources where they can remain anonymous and confidential. In contrast, some students believed the resources may be unreliable and questioned the credibility of the developers. They also had some concerns of being understood when communicating through text.

The second element of the systemic review involved systematically examining the qualitative literature related to the help seeking behaviours of students in Higher Education. This involved examining an initial tranche 1,720 search results for relevance and quality. This ultimately left nine papers. Figure 1 below provides a flowchart summary of this filtering process.
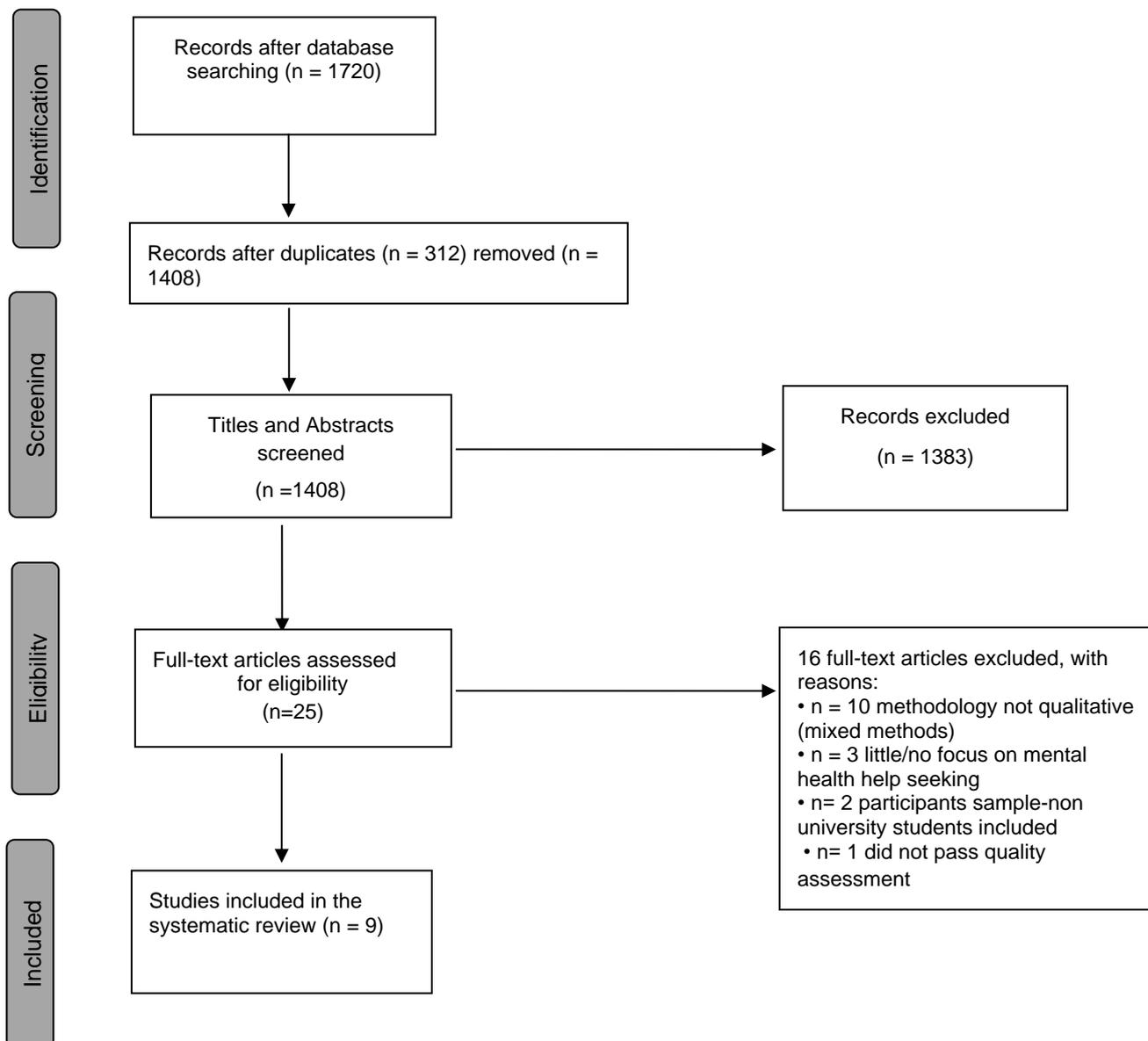
Figure 1: PRISMA flowchart reporting the filtering process during the review

The nine papers that remained at the end of this process are summarised in Table 3 below.

Authors and date	Paper title
1 (Yelpaze & Ceyhan, 2019)	University Students' Perceptions about Psychological Help Seeking: A Qualitative Study.

2 (Busiol, 2016)	Help-seeking behaviour and attitudes towards counselling: a qualitative study among Hong Kong Chinese university students.
3 (Winter, Patel, & Norman, 2017)	A qualitative exploration of the help-seeking behaviors of students who experience psychological distress around assessment at medical school.
4 (Laidlaw, McLellan, & Ozakinci, 2016)	Understanding Undergraduate Student Perceptions of Mental Health, Mental Well-Being and Help-Seeking Behaviour.
5 (Hjeltnes, Moltu, Schanche, & Binder, 2016)	What brings you here? Exploring why young adults seek help for social anxiety.
6 (Tang, Oliffe, Galdas, Phinney, & Han, 2014)	College men's depression-related help-seeking: a gender analysis.
7 (Koydemir, Erel, Yumurtacı, & Şahin, 2010)	Psychological help-seeking attitudes and barriers to help-seeking in young people in Turkey.
8 (Quinn, Wilson, Macintyre, & Tinklin, 2009)	"People look at you differently": Students' experience of mental health support within higher education.
9 (Chew-Graham, Rogers, & Yassin, 2003)	"I wouldn't want it on my CV or their records": Medical students' experiences of help-seeking for mental health problems.

Table 3. The list of papers included in the final systematic review

The analysis of these papers then led to a conceptual understanding of the process that students experiencing mental health and wellbeing difficulties go through when seeking support. Figure 2 represents this process in action.
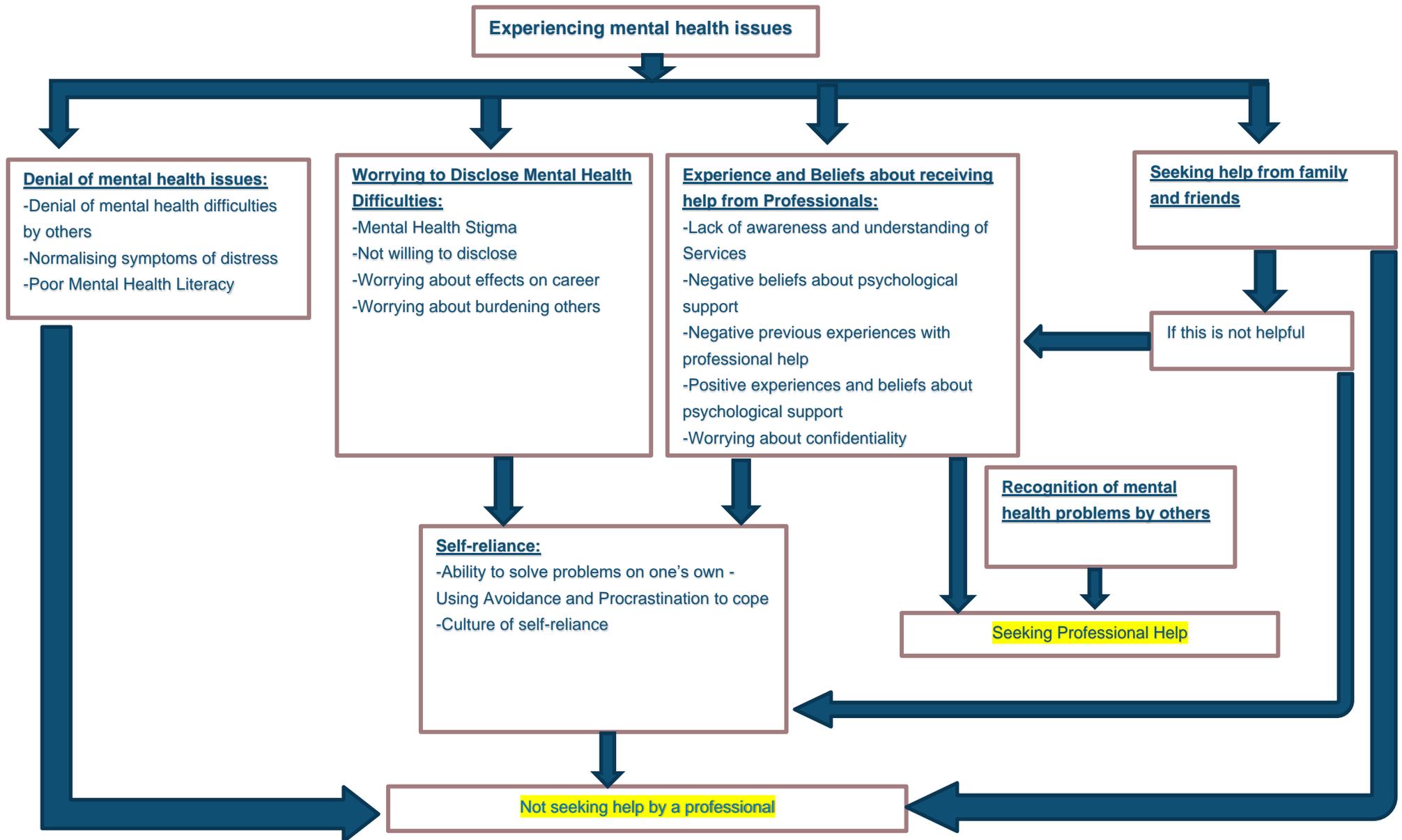
Figure 2: A conceptual understanding of the process students go through when seeking support.

As is evident in Figure 2, the process that students go through when seeking support can vary greatly, with there being many barriers and facilitators associated with obtaining support from professionals. The main themes from the analysis of the papers are as follows (these are underlined in Figure 2):

- Self-Reliance

- Experience and beliefs about receiving help from Professionals

- Denial of mental health issues

- Seeking help from family and friends

- Worrying about the disclosure of mental health difficulties

- Recognition of mental health difficulties by others facilitates help seeking

Further, associated subthemes are bullet-pointed within the associated boxes. The way in which each of these themes are represented within the papers can be found in Appendix C.

Interpersonal differences and previous experiences of accessing support are reported to impact upon the likelihood of whether an individual may seek support or not. Where individuals may be in denial around the difficulties that they are facing, or that they worry about the negative impact of disclosing a difficulty, students may prefer not to seek professional help and/or rely upon self-help resources. In contrast, where individuals are having difficulties and have a positive perspective of seeking mental health and wellbeing support, they are more likely to seek and use professional support. Likewise, the recognition from others (friends or family) that an individual may benefit from additional support can also aid individuals in accessing professional support. Thus, the relational/interpersonal element of seeking support, also proves highly influential in whether an individual may seek out professional support.

Discussion

This project set out to provide a detailed picture of the way that Higher Education Institutions make use of technology to support their students. Within this section, we briefly reflect upon how the series of scoping activities have answered our research questions. These are outlined in turn before moving to consider the limitations and recommendations that are to be made from these activities.

Research Question 1. What types of computer-mediated mental-health and wellbeing services are provided by Higher Education Institutions?

The findings highlight that there are a wide variety of ways that universities support individuals using technology. These include:

- Stand-Alone Information

- Self-Help Resources – Audio

- Self-Help Resources - Video

- Self-Help Resources – Computer Programme

- Online Therapy (professional led)

- Risk Management

- Staff Training

As is evident from the list, some of these resources involve little or no ongoing professional input. For instance, where stand-alone information or self-help resources are provided, professional input is primarily limited to the development and choice of the resources. This contrasts to work where professionals are directly involved in the delivery of therapy. Unsurprisingly, this more labour intensive provision appears less available to students in UK universities, with only 18% of the whole sample reporting offering it on their webpages. Such an approach, might be viewed as akin to the stepped care approach of the National Health Service in the UK, an approach where those with less severe distress are offered less intense support in the first instance. Where distress increases, or individuals report wanting more involvement of professionals, they are then 'stepped up' to a different type of intervention (Bower & Gilbody, 2005). Although this may not be explicit in the design of services, it appears an organic consequence of the resources on offer given the reported increase in demand (Yeung et al., 2016).

One interesting difference that was observed in the audit, was that the Russell Group universities appear to offer a different type of support to the whole sample. Most

notably, the Russell Group universities advertised online therapy services much more than the whole sample. 92% of this group had some form of online therapy in contrast to 18%. In contrast, the explicit advertisement of emergency support services such as the Samaritans, appeared much lower from the Russell group universities. These differences warrant further exploration but may be influenced by the way that the Russell Group institutions want to be viewed by those external to them – i.e. they have resources to support students, but do not want to be associated with the need to seek emergency support.

Finally, the resources on offer varied in the psychological approach that they adopted. Many of the self-help resources appear to be informed by behavioural (e.g. relaxation audio recordings) or cognitive-behavioural approaches (e.g. self-help stand-alone programmes). In contrast, other resources, such as some of the online therapy provision, report using integrated psychological models. This pluralistic approach (Hanley, Cooper, McLeod, & Winter, 2017) appears to be pragmatic in nature and acknowledges that one size of mental health and wellbeing support does not fit all. The amalgamation of these resources into one service proves interesting and would benefit from further exploration. For instance, considering what is/are the common goal(s) associated with providing a rich array of diverse resources (e.g. to support educational attainment or increase the wellbeing of students in general) would be helpful in being transparent about the purpose of the services on offer.

Research Question 2. What empirical research has been conducted to examine computer-mediated mental health and wellbeing support with university students?

The scoping activities highlighted that a large number of projects have been conducted in this area. Surprisingly this led to the discovery that seven systematic reviews had already been conducted exploring the research in this area. A majority of this research focused upon summarising outcome research around particular interventions. This highlighted that the field was relatively nascent but demonstrated promise in computer-mediated work. In general, the papers recommended the need for more controlled efficacy studies to be completed. Such a finding does not appear surprising and echoes findings examining the use of computer-mediated support for other populations (Barak, Hen, Boniel-Nissim, & Shapira, 2008; Hanley & Reynolds, 2009).

The papers focused less upon the challenges and opportunities that individuals might encounter when seeking support. However, as noted below, one review did in some detail.

Research Question 3. What challenges and opportunities can be identified within the literature regarding the provision of computer-mediated mental health and wellbeing services for university students?

In addition to reflecting upon the findings from outcome studies within the literature, work also highlighted the challenges and opportunities associated with such provision (see Montani et al. (2018) in particular). This work highlights that computer-mediated resources offer the opportunity to increase accessibility for support services. Further, students can feel disinhibited (Suler, 2004) when accessing online support and value resources where they can remain anonymous and confidential. Such benefits echo earlier projects examining the way in which young people talk about the benefits of online support (Ersahin & Hanley, 2017; Pattison et al., 2015). In contrast, some students believed the resources may be unreliable and questioned the credibility of the developers. They also had some concerns of being understood when communicating through text. Such findings highlight that the group are not naïve about the online mental health and wellbeing resources they access and are often informed help seekers (Hanley, 2012).

The systematic review of the qualitative literature around help seeking behaviours of students helps to provide further context for why online resources provide an important opportunity for university mental health and wellbeing services. The review highlights that when seeking support, a combination of intrapersonal and interpersonal issues might deter individuals from seeking professional support. As such, it can be concluded that providing a variety of resources (computer-mediated and face-to-face) can help to make services more accessible for student populations that are varied and diverse. Further, the need to provide quality information for those who do not wish to seek support from a professional proves important. Such information might be able to directly support individuals by providing informational support (Coulson, 2005) or might lead to other forms of emotional support (Hanley, Prescott, & Gomez, 2019).

A challenge in providing a variety of mental health and wellbeing resources might be the theoretical consistency of such services. From the broad reflection of services in these scoping activities, it was notable that numerous different psychological theories guided the interventions being discussed. On the one hand, this might be viewed as a strength and help to cater for the broad student population, whilst on the other it could be ad hoc and inconsistent. With this in mind, the authors of this report believe that it might be helpful to utilise a humanistic psychology perspective to understand the way of working that is evident in many services. This perspective works with the view that if an individual is provided with sufficient resources, and a fertile caring environment, then constructive growth/development is likely to occur (Bugental, 1964; Cain, 2003). It is an approach that has been translated to educational environments (Cornelius-

White & Harbaugh, 2010; Patterson, 1973) and can prove fitting within establishments where reduction of pathological symptoms is not the primary goal. As such, the resources that are selected might differ in the psychological frame that they advocate, but the underlying purpose to create a supportive and safe space for individuals to learn about themselves would remain. As noted above, such a position remains pluralistic in nature but might be best underpinned by humanistic psychology principles (Hanley & Winter, 2016).

In reflecting upon both the audit and the review of the literature, it is notable that university support services aim to contribute to the development of a supportive ecosystem for students that is holistic in nature (including resources that are physical, psychological, social and spiritual). The computer-mediated element that universities offer has the potential to complement this by providing 'positive virtual ecosystems' (Hanley, Sefi, Grauberg, & Prescott, 2019) in which technology can be utilised to provide an additional dimension to this work. By doing so, research suggests that it is possible to provide resources with quality assured content and cater for individuals who might not ordinarily access professional support to do so.

Strengths, Limitations and Future Research

The scoping activities have been very helpful in outlining the way in which Higher Education Institutions use computer-mediated resources to support students. In particular, the audit provides a useful yardstick for considering how things may change in the future. It also raises some interesting differences in the way that institutions may be making use of their wellbeing provision. As noted above, this warrants further exploration. A caveat is needed however when viewing the audit as a fully accurate reflection on the services on offer. For the purposes here, only the publicly available material was reviewed. It may be that more information was provided within university protected areas that required individuals to log in.

The systematic review provides a first reflection on the existing qualitative research exploring the help seeking behaviours of students. As such, it highlights the importance of providing resources that are flexible and accessible to student populations. In looking at this work, it does not provide any reflection upon the experience of students accessing computer-mediated mental health and wellbeing resources. Although this is touched upon in other reviews of the literature, specific exploration of this territory would be of benefit going forward.

Conclusions and Recommendations

The use of technology to support students in Higher Education is widespread and varied. Currently it would appear that there is little consistency in the way that university support services use computer-mediated resources that support the mental health and wellbeing of students. Given the variety of pathways that students may travel to seek support, it seems important that the resources universities provide are multifaceted. For instance, some individuals will decide not to access professional support, but may utilise resources that are available to them, such as online self-help. In contrast, others may wish to access professional support. Given the worry and concern about disclosing mental health and wellbeing difficulties for some people, online support appears a developing, but credible, alternative to equivalent face-to-face support services.

It is recommended that Higher Education support services:

- Are mindful of the stigma that some students perceive to be associated with mental health and wellbeing difficulties. As such, services should be engaged in developing resources that mediate this worry.

- Make themselves aware of the wide array of computer-mediated support delivery models available – ranging from stand-alone content and self-help material to professionally delivered therapy. In particular we would recommend that individuals share resources and good practises to make the best use of freely available material to support student populations (a list of the resources identified in the audit is provided in Appendix A).

- Continue to research computer-mediated resources to ensure that they are fit for purpose with this group. This may include examining the effectiveness of the resources and the general quality of the information that is provided.

- Understand, and make use of, the safety that individuals perceive in the delivery of online services. The disinhibition that is afforded through computer-mediated communication can lead some individuals to seek support who would not ordinarily do so. This could be particularly relevant for individuals worried about any negative impact of seeking help.

- Consider the underpinning theoretical basis for integrating a wide variety of therapeutic responses, from very different theoretical traditions, in the services on offer. This may lead to a deeper consideration of the purpose of the mental health and wellbeing services within university settings. Further, it may impact on the way this support is disseminated to existing and prospective students (e.g. is the support available to help individuals succeed in academic work or more holistic in nature).

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Appendices

Appendix A: List of Resources (divided by type)

This appendix provides an overview of the resources that are provided by HEIs to support students. In some sections the list has been abridged and illustrative links are provided.

Stand Alone Information

- Alcoholics Anonymous: http://www.alcoholics-anonymous.org.uk/

- Anxiety UK: https://www.anxietyuk.org.uk/

- Cruse: http://www.cruse.org.uk

- Eating disorders service: www.swedauk.org

- Galop: http://www.galop.org.uk/

- Mind: https://www.mind.org.uk/

- Moodjuice: https://www.moodjuice.scot.nhs.uk/

- Northumberland, Tyne and Wear NHS Foundation Trust: https://www.cntw.nhs.uk/home/accessible-information/easy-read/self-help-guides/

- Relate: https://www.relate.org.uk/

- Saneline: www.sane.org.uk

- Self-Injury Support: www.selfinjurysupport.org.uk

- Student Minds: http://www.studentminds.org.uk/

- Switchboard – the LGBT+ helpline: www.switchboard.lgbt

Self-Help Resources – Audio

A number of audio resources were available. This list identifies a few of the resources available.

- Mindfulness Meditation: https://www.mindful.org/audio-resources-for-mindfulness-meditation/

- Relaxation exercises and mindfulness: https://www.counsellingservice.manchester.ac.uk/buildyourmentalhealthexpertise/

- Wellbeing audio resources: http://wellbeing-glasgow.org.uk/audio-resources/

Self-Help Resources – Video

A number of video resources were available. This list identifies a few of the resources available.

- Depression: https://www.upworthy.com/what-is-depression-let-this-animation-with-a-dog-shed-light-on-it?g=2

- Homesickness, time management, perfectionism and sleep: https://www.lancaster.ac.uk/student-and-education-services/counselling-and-mental-health-service/resources-and-self-help/service-videos/

- LGBT: https://www.youtube.com/watch?v=CD2h_91UgsI&feature=youtube_gdata_player+

- Mental Health videos: https://www.mentalhealth.org.uk/podcasts-and-videos/videos

- Mind: https://www.youtube.com/channel/UCarWBJYMNqJxgn6n8_htCTQ

- TED talks: https://www.ed.ac.uk/student-counselling/self-help/apps-podcasts-relaxation-recordings/ted-talks

Self-Help Resources - Computer Programmes and online courses

The following stand-alone apps/resources were noted by the websites.

- 7 Cups - connects you with caring listeners for free emotional support

- Beat Panic

- Big White Wall

- Brain in Hand

- Breathe2Relax

- Calm

- Calm Harm

- Catch It

- Chill Panda

- Cove

- Crisis Card

- Daylio

- E-couch

- Emoodji

- ESC Student

- F.lux

- FearFighter

- Gratitude

- HappierHold

- Happily

- Headspace

- Ieso

- Insight Timer

- Living Life to the Full

- MindShift

- Moodgym

- Moodpath

- Moodspace

- MoodTools

- Motimate

- Now or Never

- Pacifica

- PTSD Coach

- Pzizz

- Rise Up and Recover

- Safety Net

- SAM – Self-help Anxiety Management
- Self-heal
- Silvercloud
- Sleep Cycle
- Sleepbot
- Sleepio
- Stay Alive
- Stigma
- Stop Panic & Anxiety
- Stress Tips
- Students Against Depression
- Talk Space
- Toxic Thinking
- Unstuck
- Way of Life
- Wellmind
- What's Up

Online Therapy (professional led)

The following types of services were identified:

- Skype
- Text
- Email
- Telephone

Risk Management

The following organisations were regularly noted by organisations.

- Befrienders: https://www.befrienders.org/

- Campaign Against Living Miserably (CALM): https://www.thecalmzone.net/

- Nightline: https://www.nightline.ac.uk/

- Papyrus Tel: 08000 684141 Web: www.papyrus-uk.org

- The Samaritans

  http://www.samaritans.org/

  Tel: 08457 909090

  Tel: 116 123 (free from mobiles and landlines)

  Email jo@samaritans.org

Staff Training

The following types of resources were noted on the websites.

- E-Learning modules

- Face to face training sessions

- Good practice guidelines: https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/student-mental-wellbeing-in-he.pdf

- Guidelines for supporting students with mental health difficulties: http://www.cdd.ac.uk/wp-content/uploads/2015/09/Mental-Health-Guidelines_revisions-121011_web.pdf

- Mental Health First Aid Training

- Mental Health guidelines for staff: https://www2.aston.ac.uk/current-students/health-wellbeing/counselling-and-mental-wellbeing-service/mental-health-guidelines

- Signposting students to mental health workshops

- Signposting students to other services such as mental health and counselling, emergency services, chaplaincy, international student support and study skills sessions

Appendix B: Quality Check of Papers

	Owning one's perspective	Situating the sample	Grounding in examples	Providing credibility checks	Coherence	Achieving general vs. specific research tasks	Resonating with readers	Explicit scientific context and purpose	Appropriate methods	Respect for participants	Specification of methods	Appropriate discussion	Clarity of presentation	Contribution to knowledge
1.Busiol (2016)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.Chew-Graham, Rogers, & Yassin (2003)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.Hjeltnes, Moltu, Schanche & Binder (2016)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4.Koydemir, Erel, Yumurtaci & Sahin (2010)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

5.Laidlaw, McLellan & Ozakinci, (2016)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.Quinn, Wilson, Macintyre, & Tinklin (2009)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7.Tang, Oliffe, Galdas, Phinney & Han (2014)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. van den Berg, Jacobs, & Weideman, (2017).	✓	✓	x	x	✓	✓	x	x	x	✓	x	✓	✓	✓
9. Winter, Patel & Norman (2017)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10. Yelpaze & Ceyhan (2019)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Appendix C: Theme Representation Tables

Key themes and number of studies (n = 9) in which theme addressed	
Self- Reliance	9
Experience and Beliefs about receiving help from Professionals	8
Denial of mental health issues	7
Seeking help from family and friends	7
Worrying to Disclose Mental Health Problems	7
Recognition of mental health problems by others facilitates help seeking	4

Studies Represented within each theme

Study	Theme 1a: Denial of mental health issues: Denial of mental health difficulties by others	Theme 1b: Denial of mental health issues: Normalizing symptoms of distress	Theme 1c: Denial of mental health issues: Poor Mental Health Literacy	Theme 2a: Self-reliance: Ability to solve problems on one's own	Theme 2b: Self-reliance: Using Avoidance and Procrastination	Theme 2c: Self-reliance Culture of self-reliance	Theme 3a: Experience and Beliefs about receiving help from Professionals: Lack of awareness and understanding of Services	Theme 3b: Experience and Beliefs about receiving help from Professionals: Negative beliefs about psychological support	Theme 3c: Experience and Beliefs about receiving help from Professionals: Negative previous experience with professional help	Theme 3d: Experience and Beliefs about receiving help from Professionals: Positive experiences and beliefs about psychological help	Theme 3e: Experience and Beliefs about receiving help from Professionals: Worrying about confidentiality
Busiol (2016)			✓		✓		✓	✓			
Chew-Graham, Rogers, & Yassin (2003)		✓		✓	✓	✓	✓	✓		✓	✓
Hjeltnes, Moltu, Schanche				✓	✓	✓					

& Binder (2016)											
Koydemir, Erel, Yumurtaci & Sahin (2010)				✓		✓	✓				
Laidlaw, McLellan & Ozakinci, (2016)			✓	✓							✓
Quinn, Wilson, Macintyre, & Tinklin (2009)	✓				✓		✓	✓	✓	✓	
Tang, Oliffe, Galdas, Phinney & Han (2014)	✓			✓		✓	✓				✓
Winter, Patel &		✓	✓	✓			✓	✓	✓	✓	

Study										
Norman (2017)										
Yelpaze & Ceyhan (2019)		✓			✓		✓	✓	✓	

Study (continued)	Theme 4: Recognition of mental health problems by others facilitates help seeking	Theme 5: Seeking help from family and friends	Theme 6a: Worrying to Disclose Mental Health Problems: Mental health stigma	Theme 6b: Worrying to Disclose Mental Health Problems: Not willing to disclose	Theme 6c: Worrying to Disclose Mental Health Problems: worrying about effects on career	Theme 6d: Worrying to Disclose Mental Health Problems: Worrying about burdening others
Busiol (2016)		✓	✓	✓		✓
Chew-Graham, Rogers, & Yassin (2003)		✓	✓		✓	

Hjeltnes, Moltu, Schanche & Binder (2016)		✓				
Koydemir, Erel, Yumurtaci & Sahin (2010)		✓				
Laidlaw, McLellan & Ozakinci, (2016)	✓	✓	✓		✓	✓
Quinn, Wilson, Macintyre, & Tinklin (2009)	✓		✓			✓
Tang, Oliffe, Galdas, Phinney & Han (2014)		✓	✓			
Winter, Patel & Norman (2017)	✓		✓		✓	✓
Yelpaze & Ceyhan (2019)	✓	✓		✓		