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# Thesis title:

*'Evaluating the mental health outcomes of delivering peer-led interventions for young people in primary and secondary schools'*

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# Abstract

Youth mental health is a global concern. Research shows that early intervention is key in order to mitigate disruptive and damaging effects, such as social and family issues, poor educational and employment outcomes, and increased risk of lifelong disease. The global literature now recognises the school setting as a key platform to address these issues.

Peer-led interventions have been identified as a promising method to address mental health problems in schools. However, the quality of the evidence base is unknown despite wide reported usage of these programs. The aim of this thesis was to address this gap by exploring the mental health outcomes of delivering peer-led interventions in primary and secondary schools.

A large systematic review was conducted in order to evaluate the global evidence on the mental health outcomes of peer-led interventions in primary and secondary schools. An extensive search of academic databases identified 11 studies that were eligible for analysis. A small-scale pilot study was also conducted to evaluate the feasibility of delivering an online peer mentor training tool ('Friend2Friend') to a sample of secondary school students ($N$ = 18). Quantitative data were collected using a questionnaire at pre-test, post-test and follow-up and analysed using descriptive statistics. Qualitative data were collected using open-ended questions and a small focus group and analysed using a thematic approach.

This thesis makes a valuable contribution to the literature base. The systematic review identified some significant results for both mentors and mentees. The overall literature base was found to lack robust evaluations and recommendations are given for future research to address. The pilot study was feasible although some minor amendments are recommended. The intervention was widely accepted by the students and showed some positive effects.

# Acknowledgements

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# Chapter 1: Introduction

## Background

The majority of schools in the UK have stated in a national school survey that they operate a peer-led intervention (Houlston, Smith, & Jessel, 2009). These can be used for a range of difficulties both internal and external to the child and have been an increasingly important area for educational authorities and schools to address. Despite their apparently wide use, the evidence base for peer support remains limited.

Youth mental health is a global issue (Patel et al., 2018), with around one in ten children and adolescents experiencing a diagnosable mental health disorder worldwide (Collishaw, 2015; Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). This figure rises to around one in eight young people in the United Kingdom (NHS Digital, 2018). Support at this age is made more urgent given that around half of adult mental health disorders show symptoms before the age of 15 (Jones, 2013). These early years therefore represent a key period of intervention, with widespread recognition of the role of schools in addressing this (Fazel, Hoagwood, Stephan, & Ford, 2014; Patel et al., 2018).

Mental health issues can have damaging and lasting effects on school life and beyond, impacting academic performance, peer and family relationships and self-esteem. However, many young people do not seek professional help for psychological disorders (Ford, Hamilton, Meltzer, & Goodman, 2007; Potter et al., 2012). This may be caused by poor symptom recognition, feelings of embarrassment or shame, or a fear of stigma (Gulliver, Griffiths, & Christensen, 2010; Patel et al., 2018). However, evidence suggests that young people will seek out a friend for support before turning to an adult or professional service (Patel et al., 2018). This has led to greater recognition that young people have the potential to be an effective resource, particularly in the school setting.

This thesis will address the above by exploring the use of peer-led interventions in schools and their impact on mental health.

## Definitions of peer support

Peer-led interventions take a variety of forms, such as peer mentoring, peer buddying, peer counselling and tutoring (Ellis, Marsh, & Craven, 2009; Houlston et al., 2009). These programs typically involve the selection and training of a group of students in preparation to deliver support or education to their peer group (Cowie & Olafsson, 2000). Due to these numerous iterations, and for ease of reference, any such program will be referred to in this thesis as a 'peer-led intervention' hereafter, and the students involved as either 'peer mentors' or 'mentees' where possible.

Peer mentors are typically taught basic counselling and communication skills, which are seen as key skills for the role (Cowie & Wallace, 2000). These programs address a range of issues in schools, such as school transitions, isolation, and bullying (Ellis et al., 2009). Peer support programs have been used in isolation but are commonly used as an adjunct service that can work effectively alongside other services, such as school counselling, to address low-level needs and provide psycho-social support.

Exact definitions of peer-led interventions vary across the literature, although a number of elements, such as the selection and training of students and the provision of education or support, are constant. Peer-led interventions can be more closely defined as:

> '…those planned practices where young people have been given, and often trained to undertake, a defined task of offering a learning experience to another young person or group' (Ellis et al., 2009)

Peer-led interventions are often focused on the development of emotional, social or academic attributes within the mentee (Houlston & Smith, 2009). These are often delivered in the context of specific theoretical frameworks. One such example is the social network framework, which aims to engineer relationships that provide social, emotional and informational support to both parties

(Heaney & Israel, 2008). This is typically manifested in close mentor-mentee relationships, delivered either on a one-to-one or group basis. Other programs rely more on social learning theory (Bandura, 1971), whereby a sample of 'influential' peers are selected to model and advocate for certain behaviours around their school in the hope that others observe and emulate these behaviours. This model has been particularly used to promote behaviours such as smoking abstinence (Audrey, Holliday, Parry-Langdon, & Campbell, 2006; Starkey, Moore, Campbell, Sidaway, & Bloor, 2005) and safe sex (Caron, Godin, Otis, & Lambert, 2004).

## Non-professionals as mentors for young people in schools

The use of non-professionals is widespread, that is, lay people without the typically required qualification as mentors in school populations. However, there is concern that this popularity exists in the absence of a suitably robust evidence base (Karcher, 2008; Portwood, Ayers, Kinnison, Waris, & Wise, 2005). Benefits to using non-professional mentors include cost-effectiveness for schools and addressing the concern that young people may not access professional services.

Benefits have been observed when using non-familial adults and members of the community as mentors. A major project in the United States was the 'Big Brothers, Big Sisters' program, where school students between the ages of nine and 16 were paired with older mentors from their local community (Grossman & Tierney, 1998; Herrera, 2011). Improvements for mentees included higher grade scores, increased school attendance and better relationships with their family and friends (Grossman & Tierney, 1998). Almost all improvements were greater for girls, which is seen widely across the peer support literature. Herrera et al. (Herrera, 2011) later followed mentees on the same program for 1.5 years, noting some small academic benefits but no significant effects on problem behaviours, self-esteem or relationships with friends and family. Furthermore, an evaluation of the 'Healthy Kids Mentoring Program' (King, Vidourek, Davis, & McClellan, 2002) found significant improvements to self-esteem, school connectedness and peer connectedness

following a program where older members of the community mentored school children aged nine and 10.

A study by Portwood et al. (2005) used a pre- and post-test control group design to compare the effects of a school-based program that used non-familial adults as mentors on a range of outcomes. The sample consisted of students between grades four and 12 who were part of a 'Youth Friends' program. They found no difference between the experimental and control groups with regards to drug and alcohol use, attitudes towards drug use and commitment not to use drugs. However, there was a statistically significant impact on school connectedness in the experimental group and self-esteem was seen to increase in the male participants.

A randomised controlled trial by McQuillin, Smith, and Strait (2011) evaluated the effects of using college students as mentors for students transitioning to middle school. Previous literature has identified transitions as a vulnerable period and a number of peer programs have focused on this population. A sample of 120 middle school students were randomised to either a mentoring program, where they received eight weekly mentoring sessions, or a control arm with no mentoring. They found that involvement in the mentoring program had no significant effect on school connectedness, teacher connectedness or school referrals, as well as a negative effect on reading scores. The authors draw on previous research (Bernstein, Rappaport, Olsho, Hunt, & Levin, 2009; Karcher, 2008) that also found minimal and negative effects of mentor programs in schools.

Although older-age mentors are widely used, Smith (2011) argues that a mentoring relationship with a similar-aged peer can offer a higher level of social support and sense of psychological safety that cannot be achieved with an adult mentor. Adults are natural authority figures over youths by virtue of their age, position or level of responsibility (Smith, 2011), which may make it more difficult for the young person to speak up if they feel unhappy with the partnership (Keller & Pryce, 2010). This can risk forming an ineffective mentoring relationship, where the young person might resist communicating and disengage (Keller & Pryce, 2010).

There is also evidence supporting the use of peer mentoring programs outside of the school environment. A systematic review and meta-analysis (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011) of studies evaluating school and community mentoring programs (N= 73) found greater benefits when 'older youths' were the mentors, as compared to adults. This further supports the argument that mentoring relationships with a smaller age gap may be more effective. Similarly, a recent systematic review by Rose-Clarke, Bentley, Marston, and Prost (2019) found seven studies that evaluated community-based peer-led interventions in low- and middle-income countries that reported mental health outcomes, with delivery methods ranging from outreach to counselling and education interventions. The authors found some evidence of improvements to a range of mental health outcomes, including depressive symptoms. Three of the four studies that reported improvements to a mental health outcome were of interventions linked to a school or college.

## Justification for peer approach and importance of peer attachments

There are a number of key justifications for the use of peer-led interventions in schools. First, these programs are relatively resource-light and may therefore be more acceptable to schools. Program implementers have a large pool of students from which to select their peer mentors, with the potential for both student and teacher input into the selection process. Having a service within a school also removes a potential access barrier for students getting mental health interventions, as this is where they are likely to spend most of their time outside of their home life. Peer-led services have operated well in a number of locations around schools, such as classrooms, playgrounds and corridors, so schools have a range of delivery settings available to them. This low-level resource requirement also improves service scalability, enabling schools to deliver their intervention universally or selectively depending on demand.

Second, there is a growing evidence base to suggest a wide range of benefits to both mentors and mentees. These include school connectedness (Ellis et al., 2009; Karcher, 2005), communication and social skills (Rhodes, Grossman, & Roffman, 2002; Willis, Bland, Manka, & Craft, 2012) and

support with school transitions (Waters, Lester, & Cross, 2014). Peer support programs have also shown promise in supporting young victims of bullying (Naylor & Cowie, 1999; Roach, 2014) as well as a range of other outcomes, such as eating behaviours and body image (Eickman et al., 2018) and asthma symptoms (Shah et al., 2001).

Last, the case for the peer-led approach in schools is strengthened by the increase of social influence and greater significance on peer attachments that develops into the adolescent years (Blakemore & Robbins, 2012). As children move into adolescence, a complex series of changes in the brain can begin to impact peer and family relations and affect social behaviour as a result (Blakemore & Robbins, 2012). Peer attachment becomes more important, with evidence suggesting that close attachments have a positive impact on overall psychological wellbeing and emotional stability in this age group (Balluerka, Gorostiaga, Alonso-Arbiol, & Aritzeta, 2016; Hay & Ashman, 2010). As this level of peer influence increases in importance, help-seeking behaviours in adolescents shift more towards friends and peers than adults or professional services (Blakemore & Robbins, 2012; Telzer, Fuligni, Lieberman, Miernicki, & Galvan, 2015). This supports the argument for equipping young people with the skills they need in order to offer support or information if they are approached by a friend or peer in this way.

Telzer et al. (2015) conducted a 2-year, three-phase longitudinal study to examine the relationship between peer support and risk-taking behaviours in adolescence. Teenage students were asked to a) complete a daily diary for 2 weeks, indicating whether they had argued with a close friend or partner, plus a measure of peer support (Inventory of Peer Attachment (Armsden and Greenberg, 1987) b) repeat this task a year later, and c) take part in a Balloon Analogue Risk Task (BART) while under an fMRI (functional Magnetic Resonance Imaging) scan, which identified levels of risk-taking behaviours. The study found that those who reported feeling strongly supported by their peers were less likely to engage in risky behaviours; furthermore, that strong peer connections can actually buffer peer conflicts. This further demonstrates the value of strong peer relationships in adolescence.

The importance of social support systems is emphasised by Cohen and Pressman (2004). The 'Stress-Buffering Hypothesis' of social relationships suggests that social connection and support, particularly on an informal basis, equips people to cope with difficult psychological states, such as stress. Cohen sets out some possible explanations for this: 1) the presence of a support system may minimise the stress reaction due to the perception of external resources; 2) talking with others can interrupt the intrusion of maladaptive coping strategies; 3) members of a support system can either distract from, or minimise the importance of, the perceived stressor. Blakemore and Robbins (2012) found that adolescents are more likely to engage in risky behaviours in 'hot' contexts, i.e. where stress is involved. This suggests that peer support systems can be particularly useful in school settings, where stress levels are likely to be high and peers are an available resource. Indeed, peer support has been shown to help young people regulate their emotions in response to stressors (Telzer et al. 2015).

## Peer leader selection

Peer leader are typically selected through student nominations, teacher selection or volunteering. The criteria by which peer leaders are selected varies widely across the literature base, although they generally reflect ideals of prosocial behaviour, such as willingness to help or whether they are viewed as a role model, or factors related to ability, such as in academic work or sport (Forman, Olin, Hoagwood, Crowe, & Saka, 2009). A recent study by Laghi et al. (2016) compared teachers' and students' peer mentor selection choices. They found that both groups preferred to select students who exhibit prosocial behaviour, although the students nominated more females than males, whereas the teachers chose more equally. The students also selected more 'popular' peer mentors than the teachers did. This highlights the value of combining peer and teacher nominations, as what students want from a mentor may differ from what teachers think are optimal qualities. Conversely, student selections may be biased towards people they know and teachers may have a more nuanced understanding of what it takes to be an effective peer mentor and a broader appreciation of the capacity of the students.

## Training and supervision

The training of mentors is also seen as a key part of a peer-led program (Smith & Petosa, 2016). This process varies widely with respect to duration, content and delivery method. As is the case with peer selection, there is no standardised training process and there is little clarity in the evidence base about which training methods are most effective. The content of the programs typically involves teaching basic counselling skills in order to prepare the mentors for their role, as well as awareness of mental health signs and symptoms (Smith & Petosa, 2016). Many also focus on more practical elements, such as leadership and group management skills (Ellis et al., 2009). Cowie and Wallace (2000) emphasise the importance of offering peer mentors the chance to reflect on their own thoughts and feelings. A key element of peer support programs appears to be an understanding of the mentors' remit, therefore knowing when, where and how to refer someone to a more specialist service is paramount and is commonly featured in mentor training. The duration of training programs varies in the literature between short, one-off sessions to continued input throughout an intervention. Some training programs take place within the school whilst others take place externally, such as at external camps (Bausano, 2006).

The extent to which mentors are supervised and supported is often unclear in the literature and conceptual frameworks for supporting peer leaders are lacking (Pisani et al., 2019). However, some recent research has focused on the retention of peer mentors. Supervising peer mentors can have a positive impact on mentor retention (Wyman et al., 2010), which in turn can lead to better outcomes for the delivery of the program and on an individual level (Wyman et al., 2010; Pisani et al., 2019). A recent study by Pisani et al. (2019) evaluated an innovative text messaging support service with 58 eighth-grade students peer leaders in a substance use prevention program across three American middle schools. Throughout the intervention, leaders were sent automated text messages to their phones with supportive and educational content and encouraged to respond. Most leaders engaged with the service to some degree and the service was generally well-received, with leaders favouring messages containing relatable stories and opportunities to share their experiences. The study did

not include a control group, so future research comparing groups with and without this text service would be valuable in order to assess the true effect on retention.

There are many factors to consider when delivering a peer-led program. Many programs are made available to the whole school, although some are targeted at specific populations, e.g. bully victims (Roach, 2014). At the level of service access, support is typically offered on a 1:1 or group basis. Some programs have enabled users to arrange appointments, whereas others offer a more informal 'drop-in' service. The intensity with which these programs are delivered also varies widely, with some taking place continuously and on an 'ad hoc' basis, and others at specific meeting times. Programs focused on educating or providing information are largely delivered universally, presumably in order for the information to reach the widest audience. Some peer leaders have spoken with classes or given presentations (Wyman et al., 2010), as well as posting information around their school on posters and leaflets (Parikh et al., 2018). Many programs that focus on mentoring involve 1:1 interactions where mentors are likely to have to use communication and counselling skills. In terms of how this mentoring is delivered, Smith (2011) dictates two approaches to mentoring: 'developmental', which focuses more on relationship building and playing together; and 'goal-orientated', which involves more structured activities decided on between the involved parties. Hamilton and Hamilton (2010)found that mentors are most effective when they adopt a combination of these approaches.

## Applications of peer support

Peer support interventions have been used to address a number of problems facing young people.

There is a wide literature base on the use of peer support programs to address and mediate bullying behaviours in schools (Boulton, 2006; Cowie, 2009, 2011; Cowie et al., 2008; Naylor & Cowie, 1999; Roach, 2014; Tzani-Pepelasi, Ioannou, Synnott, & McDonnell, 2019). Much of this research has used a qualitative design and outcomes are variable. A study by Naylor and Cowie (1999)

collected the views of a large sample (N=2313) of teachers and pupils in secondary schools (N=51) where an anti-bullying peer support program had been in place for at least 1 year. Teachers and pupils agreed that a peer support program demonstrates care from the school and it can give strength to deal with bullying. However, they observed no impact on bullying rates. Cowie, Naylor, Talamelli, Chauhan, and Smith (2002) followed up a survey by the Prince's Trust to investigate the development of anti-bullying peer support programs in secondary schools over time. They found that some of the programs transformed from formal and selective to more ad hoc and universal. This points to the flexibility of these programs, which could be seen as both a benefit and a risk: the former in that peer support programs can be flexible and adapt to the needs of an environment; the latter in that the organisation and structure of these programs may be difficult to maintain.

Some peer-led interventions have targeted psychological issues. For example, the 'Sources of Strength' (SOS) suicide prevention program has been evaluated in a number of studies (Petrova, Wyman, Schmeelk-Cone, & Pisani, 2015; Wyman et al., 2010). The program is delivered through school-wide messaging by students, which draws on the idea of social learning through modelling of behaviour (Petrova et al, 2015). The program has shown non-significant decreases in suicidality rates (Wyman et al., 2010) but improved help-seeking intentions (Petrova et al, 2015). A recent randomised controlled trial by Eickman et al. (2018) evaluated the 'REbeL' peer education program, which aimed to promote positive body image and healthy eating behaviours. A sample of 57 students across four schools were divided into either an experimental or control arm. Peer leaders selected topics to discuss each week from an online curriculum. One school saw significant improvements to a range of outcomes, such as self-esteem, empowerment and societal influence on body image.

Peer-led interventions have been used widely to promote healthy living behaviours. Smith (2011) evaluated the impact of using student peers to promote healthy eating and exercise. Third- and fourth-grade students were mentored one-to-one by high school-aged adolescents at their school. The program consisted of 1-hour weekly meetings over eight weeks. The authors observed a

significant decrease in BMI at the end of the study, as well as a significant increase in intention to eat healthily. A recent systematic review (Yip, Gates, Gates, & Hanning, 2016) of peer-led nutrition education programs found improvements in healthy eating behaviours and BMI scores in mentees. Improvements in healthy eating knowledge and behaviours, and leadership skills, were recorded for mentors. Students across several studies were also more likely to improve behaviours when their program was peer-led. Rates of smoking uptake reduced among high-risk adolescents when peer leaders were asked to encourage their peers not to smoke, although smoking cessation among regular smokers saw little change (Audrey, Holliday, & Campbell, 2006). Peer education was provided informally and peer leaders were given agency over how the messages were delivered.

## Issues

Despite a growing body of evidence suggesting that peer support programs can be effective and acceptable in a school environment, there are still a number of issues and risks to be aware of. These relate both to the implementation of these programs and the personal effects on its users.

As discussed, social awareness and the importance of peer influence increases in adolescence (Blakemore and Robbins, 2012). Although this represents an opportunity to harness this potential for bonding and relationship building, this desire for social acceptance may also act as a deterrent to visiting a peer supporter if the young person fears ridicule for using the service. For instance, around one in 20 participants in one study said that they would ‘definitely not’ use the service (Boulton, 2006). Reasons for this included preferring to speak with friends about their problems, which may suggest that it is the close friendship with a peer, rather than similarity in age, that is the qualifying factor for a source of support.

Poor usage rates have been highlighted as a key issue in the implementation of peer support programs. A number of factors have been identified as contributors to low usage. One study found that the most common reason for not using an anti-bullying program was victims seeking support

elsewhere, with only 8% of bullied students making use of the program (Cowie et al., 2002). They also found that nearly twice as many girls in year 11 (20%) as in year 9 (10.8%) did not use an anti-bullying program because they didn't think it would help. In year 9, 13% of boys did not use the service for same reason, compared to only 7.1% of boys in year 11. Most users reported the system to be 'useful' or 'very useful'. This was also found in Naylor and Cowie (1999), where victims preferred to seek help from a parent, friend or teacher. However, given that bullying can alienate victims from their peers and make them feel generally colluded against (Cowie, 2011), seeking support from a peer within the same environment as the bullying may elicit a fear of further ridicule. The study also found that many students were not aware of the kind of problems the peer supporters could address. This may be improved by increasing the publicity of the program within the school.

A lack of awareness of the program was highlighted in another recent study (Boulton, 2014). The majority (60%) of students were not aware that the service was in place to help them with issues around bullying and others were not sure of the main function of the programme. More strikingly, another study (Cowie et al., 2008) looked at two schools with existing anti-bullying peer support programs and found that 25% and 33% of the students in the first and second schools, respectively, were not aware that the peer support scheme existed. The study does not state how the program was publicised. Interestingly, the authors went on to find no difference in perceptions of safety in certain school areas, such as toilets, playgrounds and corridors, between those aware and not aware of the program, although those aware of the program felt safer within the confines of a classroom. This may simply reflect the quality of the programme or alternatively suggest a questionable effect of peer support programs on perceptions of school safety.

Smith (2011) argues that the school setting can actually be a limiting setting for a mentoring relationship to flourish, in that restrictions are placed on the range of activities available to them, i.e. they are bound to activities available within the school. This is an interesting perspective, however peer support and counselling programs take place largely on a conversational basis and so may not be as dependent on activity provision.

## Governmental interest

Recent years have also seen increased governmental interest in peer support. The 'Future in Mind' document published by the Department of Health (McShane & Rouse, 2015) identified the integration of mental health support into schools as a priority, with a particular emphasis on the development of peer support. This document was produced in response to a taskforce set up by the Department of Health and NHS England, with the intention of identifying the most crucial areas of mental health provision in schools. This culminated in the production of a full review of the peer support research in 2017 (Coleman, Sykes, & Groom) which identified key areas of current research around the development and efficacy of peer support programs in the UK. The review identifies the potential benefits of peer support in the context of some positive results in the literature. While a valuable document and clear sign of increased interest in this area, this review was not comprehensive and did not focus solely on school-based interventions. A key finding was that the evidence base is sparse and lacks overall quality.

## Summary of aims

Mental health disorders are prevalent among children and adolescents and many lifelong disorders develop during this period. This makes the school years a key period for intervention. Peer-led programs have been identified as a potentially effective tool to target mental health issues in schools, however usage appears to be growing ahead of the evidence base. The aim of this thesis is to address this gap by exploring the use of peer-led interventions in schools and the effect on the mental health and wellbeing of its users. It also aims to explore the training component of peer-led interventions, as this appears to be a core yet under-researched element of these intervention. These aims will first be addressed by conducting a systematic review of the available literature on the mental health outcomes of peer-led interventions in primary and secondary schools. A pilot study will then evaluate the feasibility of delivering an online, peer mentor training tool to secondary school students. A mixed-methods approach will be used to collect and analyse the data.

# Chapter 2: Systematic Review

## Introduction

Peer-led interventions, in a range of different iterations, are used in a large proportion of primary and secondary schools across the United Kingdom and also worldwide. A 'peer' can be any person in a supportive role, however for the purpose of this review a 'peer' is any student, either from the same class or year group, or a different year group, who is chosen, or volunteers, to act in a supportive role towards other students within their school. A peer-led intervention can be defined as any initiative that trains students in preparation for this role and implements a program to be used by students. An increasing number of these interventions are being developed in the hope that they can offer support to students with mental health and wellbeing issues. However, the evidence base on the efficacy of these interventions remains limited. This systematic review therefore aims to collate the global evidence on the mental health and wellbeing outcomes of peer-led interventions in primary and secondary schools.

The specific aims of this review are to:

1. Collate the data on effectiveness of school-based peer-led interventions on mental health outcomes
2. Determine the quality of the available research on the mental health outcomes of peer-led interventions
3. Map the range of mental health outcomes that have been identified

## Protocol

A protocol is required for authors of a systematic review to clearly lay out their search method and rationale before beginning their research (Gough, Oliver, & Thomas, 2017). The protocol is integral to the development of a high-quality systematic review as it ensures that the aim is clear and that the literature base is thoroughly searched according to a pre-determined methodology (Stewart, Moher, & Shekelle, 2012). The protocol must clearly state the planned processes of the systematic review, such as the rationale, search strategy and data analysis methods.

The protocol for this review was developed by TK and MF in line with the recommended PRISMA-P guidelines (Shamseer et al., 2015). It is recommended that review protocols are published publicly in order to make others aware of the research plans and lay out planned procedures. We registered our protocol online with PROSPERO on 23rd November 2018. Any deviations from the plan outlined in our protocol were minimal and have been addressed in the main body of this text. The protocol was also published in the peer-reviewed journal *Systematic Reviews* (King & Fazel, 2019) on 26th April 2019 (see Appendix I).

## Methodology

We followed the PICO (Population, Intervention, Comparator and Outcome) format to develop our research question, as recommended by NICE Guidelines (2012). This ensures that the research question is 'clear and focused' and that the parameters of the review are clearly defined (NICE, 2012). We completed the systematic review in accordance with the 2009 PRISMA statement (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

## Inclusion criteria

This review included randomised controlled trials (RCTs), observational studies, quasi-experimental studies and studies with a pre- and post-test design. The initial intention was to only include RCTs and observational studies, however during an initial search of the literature prior to the review a number of otherwise relevant studies with quasi-experimental and pre-post designs were found. The decision to also include these designs enabled a clear picture of the wider research landscape to be presented.

All eligible studies had to include at least one mental health or wellbeing outcome measure. These measures could be practitioner-led or self-report. The intervention under evaluation must have been at least partly peer-led; therefore, programs jointly led by a peer and an adult were eligible. Studies set in a primary, secondary or special education school, or college, were included. One study was included where peers also worked in local municipal youth clubs as the majority of the intervention was in a school (Yogev & Ronen, 1982). We also decided to include school interventions that had an online delivery element, as long as a peer supervisor/trainer was involved.

The format of the intervention could be either one-to-one or group-based, as long as any groups were at least partly peer-led. Any studies where an adult simply facilitated peer-to-peer contact, such as a teacher leading a discussion group, were not included.

We included studies that looked at either mentor or mentee outcomes. Studies were eligible if they evaluated only the peer-mentor component of a training program, as any changes for peer mentors were of interest. Within our protocol, we specified that all peers had to be of school age (4-18 years old) and a current student within the intervention school. However, we expanded the age range to include slightly older school students if a study was based in a country or culture where it was not uncommon to be at school until a later age. Both quantitative and qualitative studies were included.

Studies including young people with or without a diagnosis of any psychological, emotional or behavioural conditions were eligible. Little is known about which young people are most likely to benefit from peer support programs, therefore we placed no restrictions on sample demographics. No restrictions were placed on location, language or publication date of study.

One issue that arose during the screening process was deciding what constitutes a mental health or wellbeing outcome and therefore which studies would be eligible. Some studies included outcomes that may have an effect on mental health but are not direct measures of mental health or wellbeing, such as educational attainment, feeling closer to others, and school connectedness. We therefore judged the relevance of outcomes in each case but referred to validated mental health and wellbeing measures to ensure fidelity to our primary question. Any study that reported on quantity of drug or alcohol use was excluded as, although is substantial comorbidity of mental health and substance misuse problems, a change in intake is not necessarily a mental health outcome.

## Sample size

As we initially anticipated that few studies would be identified in this search, the original sample size for inclusion was set at 20 participants. However, during the course of the screening process it became apparent that a number of studies had larger sample sizes. We used this as an opportunity

to focus on studies with larger sample sizes in order to decrease the margin of error. We subsequently adjusted the minimum sample size to 50 participants.

## Search strategy

The following 11 electronic databases were searched for eligible studies: PsycINFO; PubMed; EMBASE; CINAHL; CENTRAL; BEI; Scopus; Web of Science; ERIC; Social Sciences Citation Index (SSCI); and Social Care Index. These databases were selected due to their broad capture of literature from healthcare, education and social sciences. A research librarian from the Oxford Health NHS Foundation Trust was consulted when selecting these databases, as well as on the development of appropriate search terms. The list of search terms [see appendix II for example search] was developed further after an initial scan of the literature and using online database thesaurus tools. A number of terms that we had not previously come across were added to the search as a result of this process, such as 'cross-age' and 'paraprofessional'. Once the search terms had been compiled, pilot searches were run to ensure that key texts were appearing in the search. Any search terms that did not appear to be returning any relevant results were removed from the search.

A number of functions are available on academic databases to maximise the accuracy and scope of a literature search. For example, truncations were used when the stem of a key term could be used in varied forms, e.g. 'psych*' is the stem of 'psychiatry', 'psychology' and 'psychatric', among others. The 'explode' function was used to broaden MeSH (Medical Subject Headings) terms that may contain related phrases. For instance, the MeSH term 'mental health' was 'exploded' to include specific diagnoses such as depression and anxiety. The searches were kept as similar as possible between databases, however the variability of functions and search process across the databases meant that conducting the exact same search was not always possible. No restrictions were placed on publication date, country or language.

A total of 67,128 titles were identified in the search, which was reduced to 38,206 after duplicate studies were removed. Titles and abstracts were screened for relevance using the EndNote reference management program. Once this stage was complete, TK screened the full texts of the remaining studies against the eligibility criteria. A range of grey literature sources were searched,

including conference proceedings, dissertations, and government documents. A total of 11 studies were identified for inclusion in the review (see Figure 1 for flow diagram of search).

Once all potentially eligible studies had been identified, TK and MF extracted data from each study into the pre-designed spreadsheet using Microsoft Excel software. The data categories included: research design, peer leader characteristics, sample size, intervention type, intervention characteristics, leader selection process, school type, selection and training, outcome measures and results (see Figure 2). Study authors were contacted where any further information or details were needed.

The reference lists of included studies and relevant systematic reviews were scanned for extra studies. All included studies were then forward-referenced using Google Scholar, which enabled us to identify works that had referenced our included studies since publication. Only one further study was identified during this process (Ellis, 2009).

# PRISMA Flow Diagram

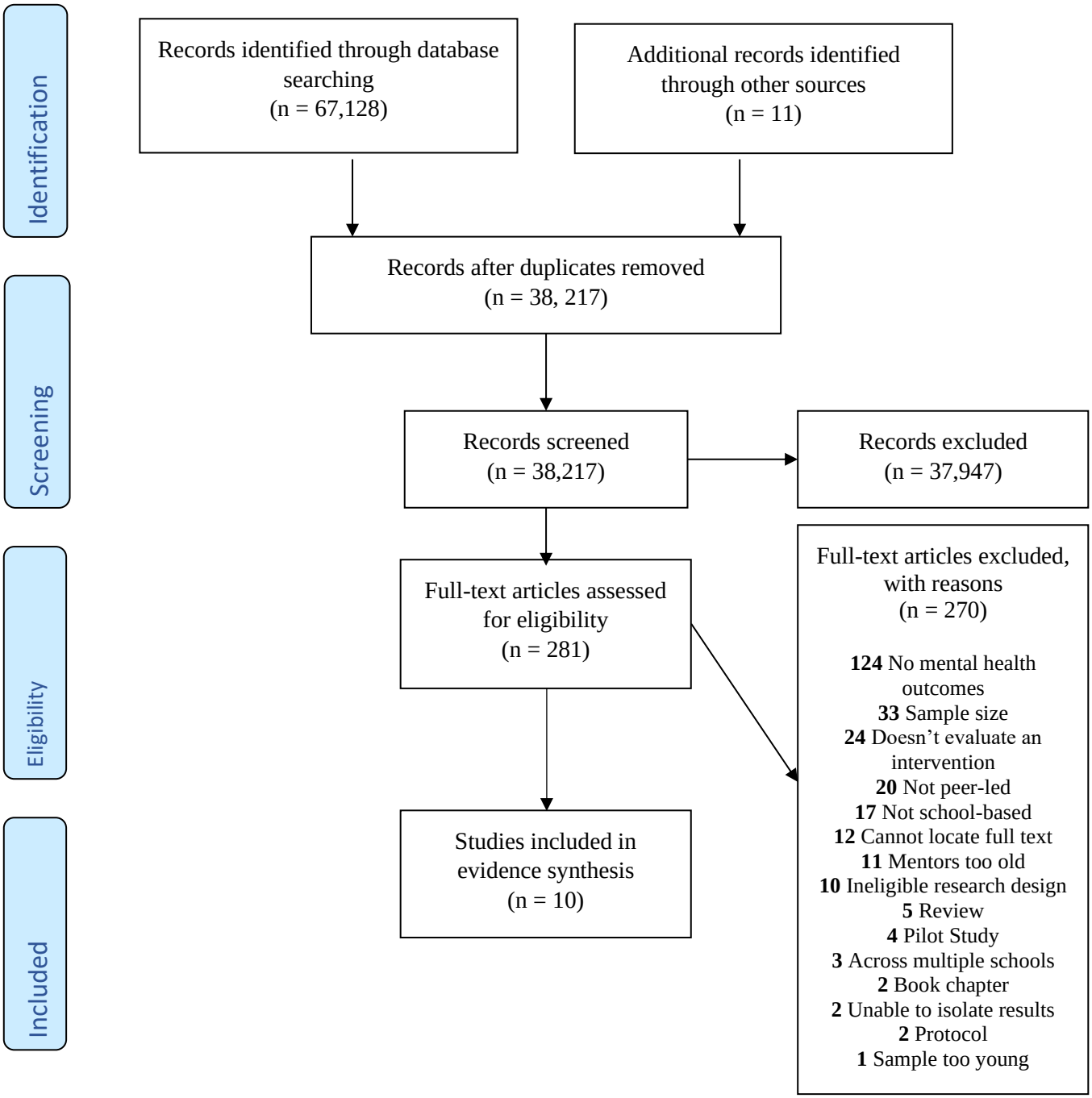


*Figure 1 PRISMA 2009 Flow Diagram*

*From:* Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

**For more information, visit www.prisma-statement.org.**

## GRADE Quality Assessment

The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) framework was followed in order to determine the overall quality of evidence (Guyatt, Oxman, Schunemann, Tugwell, & Knottnerus, 2011). The framework dictates five categories of quality assessment: risk of bias, imprecision, inconsistency, indirectness, and publication bias (Balshem et al., 2011).

A comprehensive risk of bias assessment was carried out using validated and well-established assessment tools. TK and MF independently assessed each study in order to establish inter-rater reliability. However, due to a lack of robust statistical analysis across the studies, complete fidelity to the whole framework was not possible. Therefore, the remaining categories were largely used as guidelines to facilitate a commentary on evidence quality.

## Risk of bias assessments

### What is bias?

The next stage of the review was to assess the potential risk of bias in each of the studies. When conducting a systematic review, it is necessary to conduct thorough assessments of the risk of bias of individual studies in order to determine the extent to which there may have been an underestimation or overestimation of the true effect (Higgins et al., 2011). This is a systematic procedure involving a structured evaluation of a range of domains where bias may occur.

### Assessment tools and procedure

There are a wide range of risk of bias assessment tools available for use with each of the research designs of our included studies. Although some are more commonly used than others, there is no consensus in the literature about which is the best tool for each design. As the final sample of studies in this review covered three research designs (RCT, quasi-experimental and pre- and post-test), a decision had to be made on which tool was most appropriate for each. A number of assessment tools were reviewed before three tools were selected based on the extent of their use in the field, their rigour and their suitability to the skill set of each author. A research librarian from the

University of Oxford Medical Sciences department was also consulted. The assessment tools that were chosen to use for this review are:

*Table 1 Risk of bias assessment tools*

| Research design | Risk of bias tool |
|---|---|
| RCT | Cochrane Risk of Bias Assessment Tool |
| Quasi-experimental | JBI Critical Appraisal Checklist - Quasi-Experimental |
| Pre- and post-test | NIH Quality Assessment Tool for Pre-Post Studies with No Control |

Both reviewers conducted independent, blind assessments of all eligible studies using the criteria set by each tool. After this, we came together to compare our assessments and discuss any discrepancies. All discrepancies were discussed, with reference to the original studies and consensus between the two authors was reached on all counts. As a result, each study was assigned an overall risk of bias score. See Tables 2-4 for complete risk of bias assessments.

## Risk of bias assessment outcomes

### *RCT*

We used the Cochrane Risk of Bias Assessment Tool (Higgins et al., 2011) to assess the three randomised controlled trials identified in our search. This tool assesses each study over seven domains, such as allocation concealment, selective reporting and blinding of participants and personnel. Each domain is assigned a rating of 'high', 'low', or 'unclear' risk by the review author, based on a set of criteria (see Table 2). The author(s) must then make an overall judgement of the study's risk of bias based on these ratings. Two of the RCTs in this study had a low overall risk of bias (Shah et al., 2001; Wyman et al., 2010). One study was deemed high risk of bias (Mason-Jones, Flisher, & Mathews, 2013) as allocations to experimental and control groups were not concealed and allocations did not appear to be randomly generated.

### *Quasi-experimental*

Studies with a quasi-experimental design were assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist (Tufanaru, Munn, Aromataris, Campbell, & Hopp, 2017). This was not stated in our review protocol as we had not initially intended to include this type of study, however it is a validated tool for assessing the risk of bias in studies with this design. Assessors must rate nine requirements with 'Yes', 'No', 'Unclear' or 'Not Applicable' and make a decision about the study's eligibility based on these scores. All eight studies with this design (Ellis et al., 2009; Ellis, 2004; Ellis, 2004; Froh, 2004; Roach, 2014; Song, Loewenstein, & Shi, 2018; Visser, 2007; Yogev & Ronen, 1982) were included in the final study. Three studies (Roach, 2014; Song et al., 2018; Yogev & Ronen, 1982) did not have adequate follow-up so scored a high risk of bias rating for this section.

### *Pre-post design*

Finally, we used the NIH Quality Assessment Tool (NIH, nd) for the one study with a pre-post design (Bausano, 2006). Assessors must assign a 'Yes', 'No' or 'Other' rating to twelve bias domains, with 'Yes' indicating low risk of bias and 'No' representing high risk. The study scored 'No', i.e. high risk of bias, in five domains [see Table 4]. We therefore concluded that this study has a high overall risk of bias.

We had intended to use the Newcastle-Ottawa Scale for observational studies, however none of the final studies included had utilised this design.

*Table 2 Risk of bias assessments of randomised controlled trials (RCTs) using Cochrane Risk of Bias Assessment Tool*

| Author and year | Random sequence generation | Allocation concealment | Selective outcome reporting | Performance bias | Detection bias | Attrition bias | Other bias |
|---|---|---|---|---|---|---|---|
| ***Mason-Jones et al (2013)*** | x | x | x | ? | x | x | x |
| ***Shah et al. (2000)*** | ✓ | ✓ | ✓ | ✓ | x | ✓ | x |
| ***Wyman et al. (2010)*** | ✓ | ✓ | ✓ | ? | ✓ | ✓ | ✓ |

*Table 3 Risk of bias assessments of quasi-experimental studies*

| Author and year | Cause and effect clear | Similar comparison group | Comparison receiving similar care | Presence of control group | Multiple measurements of outcome | Follow-up complete | Comparisons measured in same way | Outcomes measured in reliable way | Appropriate statistical analysis |
|---|---|---|---|---|---|---|---|---|---|
| ***Ellis (2004)*** | ✓ | ✓ | ? | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ***Ellis (2009)*** | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ✓ | ✓ | ✓ |
| ***Froh (2004)*** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | x | ✓ |
| ***Roach (2014)*** | ✓ | ✓ | x | ✓ | ✓ | x | ✓ | ? | ✓ |
| ***Song et al. (2018)*** | ✓ | ✓ | ? | ✓ | ✓ | x | ✓ | ✓ | ✓ |
| ***Visser (2007)*** | ✓ | ✓ | x | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ***Yogev and Ronen (1982)*** | ✓ | ✓ | x | ✓ | ✓ | x | ✓ | ✓ | ✓ |

*Table 4 Risk of bias assessments of studies with a pre- and post-test design*

| Author and year | Clear study question | Clear eligibility criteria | Representative sample | All eligible participants enrolled | Sufficient sample size | Intervention clearly described | Outcomes measures defined and reliable | Blind assessments | Loss to follow-up under 20% and accounted for | Statistical tests suitable | Outcome measures recorded at multiple points | Statistical analysis at group level determines group effects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Bausano (2006)*** | ✓ | ✓ | X | X | N/A | ✓ | ✓ | N/A | X | ✓ | X | X |

## Data synthesis

It was not possible to perform a meta-analysis due to high levels of cross-study heterogeneity. It was therefore decided to conduct a narrative synthesis as this is a recommended approach to analysing data when a meta-analysis is not possible and there is a mixture of quantitative and qualitative evidence (Snilstveit, Oliver, & Vojtkova, 2012). In order to address the research question, the results are presented by outcome. Extra study details are given under the 'description of studies' section as well as within the outcome descriptions.

## Narrative synthesis

The results are presented using a narrative thematic summary. According to Snilstveit et al. (2012), thematic summaries are effective for reviews with a smaller yield of results and for describing themes across heterogenous contexts, which made it a suitable technique for this data set.

This review includes a combination of quantitative and qualitative data. All studies used quantitative data collection methods, while one collected a combination of quantitative and qualitative data (Ellis et al., 2009). Where possible, quantitative results, such as mean scores, standard deviations and effect sizes, are recorded and interpreted in the outcomes section. The limited amount of qualitative data included in this review was analysed for key themes and any relevant quotations or items of speech were extracted.

# Results

## Description of studies

A total of 11 articles met the criteria for this review, with a total sample size of around 5049 participants (1,004 mentors, 3,045 mentees). Of these, three studies used a randomised controlled design (Mason-Jones et al., 2013; Shah et al., 2001; Wyman et al., 2010), seven studies used a quasi-experimental design (Ellis, 2004; Ellis et al., 2009; Froh, 2004; Roach, 2014; Song et al., 2018; Visser, 2007; Yogev and Ronen, 1982) and one operated a pre- and post-test design (Bausano, 2006). Three of the studies were unpublished dissertations (Ellis, 2004; Froh, 2004;

Bausano, 2006). Interventions took place in Australia (Ellis et al., 2009; Ellis, 2004; Shah et al., 2001), USA (Bausano, 2006; Froh, 2004; Wyman et al., 2010), South Africa (Mason-Jones et al., 2013; Visser, 2007), China (Song et al., 2018), England [Roach, 2014] and Israel (Yogev & Ronen, 1982). Pupil sample sizes ranged from 58 (Froh, 2004) to 1572 (Visser, 2007) and the number of experimental schools evaluated per study ranged from one (Yogev & Ronen, 1982) to 22 (Wyman et al., 2010).

An unpublished dissertation (Ellis, 2004) reported on several components of one study, however only the component examining the effect of a peer support program on mentors is included in this review. Another part of this dissertation was later published (Ellis, 2009), which is included as a separate study in this review. One peer support program, 'Natural Helpers', was included in two studies; both were doctoral dissertations and were supervised within the same department (Bausano, 2006; Froh, 2004).

All studies evaluated interventions in secondary schools, with one also evaluating a primary school program. Only one intervention (Ellis, 2004) was co-led with a teacher. All other interventions were exclusively peer-delivered, though most included an element of adult supervision or guidance for the peer leaders.

The age of mentors ranged from 14 to 18 and mentees were aged between nine and 20 and were most often younger. Interventions addressed bullying (Roach, 2014), sexual health (Mason-Jones et al., 2013; Visser, 2007), physical health (Shah et al., 2001), psychological support (Bausano, 2006; Ellis 2004; Ellis, 2009; Froh, 2004) and academic performance [Song et al., 2018; Yogev and Ronen, 1982]. Interventions were delivered through one-to-one sessions, group work, ad hoc drop-ins and school-wide 'messaging', i.e. disseminating information using posters, plays, announcements etc.

*Figure 2 Characteristics of included studies. '?' represents not enough information provided in the text.*

| Author, year and location | Research design | *N* | Peer leader characteristics | Intervention type | Intervention characteristics | Frequency/ duration of program | Peer selection process | School type | Training characteristics | Outcome measures | Results |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bausano (2006), USA | Pre-post | 110 mentors | Ages 13-18 | Peer support | 'Natural Helpers' program. Little information on intervention. | ~ 6 months. Unstructured meetings. | School/program co-ordinators select based on anonymous peer nominations | Secondary | Group activities to practice basic counselling skills, e.g. active listening, validation of emotions, problem-solving skills, not giving advice. Emphasis on positive coping strategies for helpers. Where/when/how to refer on. | Positive and negative affectivity | No significant effect on positive or negative affectivity. |
| Ellis (2004), Australia | Quasi-experimental | 99 mentors | Years 10 and 11 | Peer support | 45-minute sessions, 1 session per week. Peer leaders co-facilitate sessions with a supervising teacher. Each group contains 8-10 year 7 students and 2 peer leaders. Aims to help develop positive attitude and resilience. | 12 x 45-minute peer support sessions per week for 12 weeks. | Volunteers. School select based on questions and set criteria. | Secondary | Intensive 2-day training course. Games and exercises. Emphasis on: creating supportive atmosphere; active listening; developing effective leadership skills. Focusing on identifying needs and empathising with issues, managing the group, leadership, instruction giving, planning a session. | Self esteem; self-confidence | Non-significant improvement to self-confidence |
| Ellis et al. (2009), Australia | Quasi-esperimental | 75 mentors 452 mentees | Mentees: Grade 7; Mentors: | Peer support | ? | 12 x 45-minute peer support | Volunteers. School select based on questions and set criteria (responsible, | Secondary | As Ellis (2004) | Self esteem; self-confidence | No significant immediate effect on self-esteem. |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Grades 10 and 11 | | | sessions per week for 12 weeks. | role model, leadership ability) | | | | Significant long-term effect on self-confidence. |
| Froh (2004), USA | Quasi-experimental | 58 mentors, 412 mentees | Grades 6-12 | Peer support | 'Natural Helpers' program. Students identified as existing 'natural helpers' within the school are given training to enhance helping skills. | Program running for over 4 years prior to study. Unstructured meetings. | School-wide peer-nomination process | Secondary | 3-day retreat. Positive self-coping strategies. Effective interventions to help their friends, e.g. facilitative listening. | Self-confidence | Non-significant increase in measure that includes self-confidence |
| Mason-Jones et al. (2013), South Africa | RCT | 203 mentors | Grade 10 | Sexual health and wellbeing education | N/A | ? | Volunteers. Extra selection criteria unclear. | Secondary | 2 x 1-hour skills sessions per month for duration of evaluation. Conducted by non-profit organisations. Talk groups and mentoring sessions. 3-day camps – information sessions. Focused on developing range of psychosocial skills in the peer leaders | Self-esteem | Non-significant improvements to self-esteem |
| Roach (2014), England | Quasi-experimental | 372 mentees | ? | Mentoring & anti-bullying | Peer mentors aimed to establish supportive mentoring relationships. Drop-in service, one-to-one mentoring and group mentoring. | Ranged from 1 – 30 sessions | N/A | Primary and secondary | ? | Life Satisfaction | Mentees had higher levels of life satisfaction after 1 year. Girls scored lower than boys. Older mentees more likely than younger mentees to have lower life |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | satisfaction after intervention. Higher scores for mentees who had fewer meetings. |
| Shah et al. (2001), Australia | Cluster RCT | 113 mentees | Years 10 and 11 | Physical health education | 'Triple A' asthma management program. Year 11s used games, videos, worksheets and discussions to teach year 10s. Year 10s gave interactive performances to year 7s on theme of asthma management, including short acts, dramas and songs | ? | Year 11 students volunteered; all year 10 students recruited | Secondary | Workshop for year 11 mentors ('asthma peer leaders'), how to use interactive delivery methods to teach peers (videos, games, worksheets, discussions). Conducted by study team. | Quality of life | Non-significant improvement overall. Males showed significant improvement in emotional domain. |
| Song et al. (2018), China | Quasi-experimental | 118 mentors, 124 mentees | Grade 7 and 8 | Academic tutoring | Students divided by gender then split into highest and lowest performing halves of class. Required to study together for 30 minutes per day, four times per week. | ? | Highest performing students in class | Secondary | ? | Various mental health outcomes | Tutees: mental health scores decreased and learning stress increased due to being identified as lowest achieving. Tutors: increased levels of guilt; decreased social stress; insignificant change to overall mental health. |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Visser (2007), South Africa | Quasi-experimental | 1386 mentees pre, 1572 post | ? | HIV/AIDS prevention and support | Peers used as positive role models in school. Raise awareness of HIV, talking with peers, promoting healthy sexual behaviours. Delivery methods included plays, posters, guest speakers, class discussions, use of 'peer education office' as designated meeting space. | ? | Peer nominations and teacher interviews | Secondary | Initially 24 hours delivered over holidays, then 10 x 1-hour weekly sessions. Workshops delivered by post-graduate psychology students. Focus on HIV information, peer issues, counselling skills etc. | Psychological wellbeing | No difference to psychological wellbeing between pre and post in both groups |
| Wyman et al. (2010), USA | RCT | 268 mentors | Mean age = 15.7 | Suicide education | 'Sources of Strength' suicide prevention program. Peers engaged in schoolwide messaging through presentations, public service announcements, videos, text messages and social network sites. Engaged trusted adults and encouraged friends to do same | ? | Peer and teacher nominations. Peers chosen to reflect diverse range of friendship groups | Secondary | Four hours. Led by certified trainers – focusing on coping skills and available resources. Interactive training. | Suicidality | Decrease in suicidality over 3 months but non-significant between conditions |
| Yogev and Ronen (1982), Israel | Quasi-experimental | 72 mentors | 16 years old | Academic tutoring | 'Young Tutors' peer tutoring program. Took place in schools and municipal youth clubs. Met 2 x per week | ? | Offered as elective subject to freshman students | Secondary | 3 hours per week incorporated into class time. Lectures by school counsellors and invited specialists on psychology and | Self-esteem | Significant increase vs. comparison group |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | during school hours. | | | | sociology of adolescence and teaching methods. Included role-play, modelling and case analyses. | | |

Most of the programs were developed by an external agency, such as governmental departments or third sector organisations (Bausano, 2006; Ellis, 2004; Ellis, 2009; Froh, 2004; Mason-Jones et al., 2013; Roach, 2014; Wyman et al., 2010). Two were developed by that study's research team (Shah et al., 2001; Song et al., 2018) and one was developed collaboratively between researchers, a governmental department and school members (Visser, 2007). In this study, the adolescent peer leaders were also given agency over how sexual health education messages were delivered to their peers.

Most interventions were delivered either to the whole school population (Bausano, 2006; Froh, 2004; Visser, 2007; Wyman et al., 2010) or to those with indicated needs (Roach, 2014; Shah et al., 2001; Song et al., 2018; Yogev and Ronen, 1982). A further two interventions selectively targeted students with certain risk factors (Ellis, 2004; Roach, 2014). One study was unclear about which students the intervention would target (Ellis, 2009) and one made no mention of its target audience as it was examining the resultant self-esteem of the peer educators (Mason-Jones et al., 2013).

A selection of interventions operated under the theoretical assumption that if certain influential peers exhibit a set of behaviours, then these behaviours would be more likely to be accepted and adopted by the rest of school (Mason-Jones et al., 2013; Visser, 2007; Wyman et al., 2010). Most studies make no mention of a theoretical underpinning.

## Outcomes

The key themes from these studies were extracted and synthesised using a narrative approach. Four studies reported outcomes for mentors only (Bausano, 2006; Froh, 2004; Mason-Jones et al., 2013; Yogev and Ronen, 1982), four reported outcomes for mentees only (Ellis, 2009; Roach, 2014; Visser, 2007; Wyman et al., 2010) and three included outcomes for both mentors and mentees (Ellis, 2004; Shah et al., 2001; Song et al., 2018). The included studies addressed a range of issues.

## Mentor outcomes

### *Self-esteem*

Two studies evaluated the effect of peer-led programs on peer mentors' self-esteem.

In one study (Yogev & Ronen, 1982), the 'Young Tutors' program trained a sample of freshman students (N=73) (aged 16) in an Israeli high school to tutor younger, under-achieving students (aged 13-14) in their school and local municipal youth clubs over a period of eight months. The pairs would meet at school twice per week during school hours and training was delivered to the tutors on an ongoing basis throughout the program. The study reported a significant between-group effect ($F = 16.71$; $p < .001$) on self-esteem at the end of the program, however the within-group changes were non-significant for tutors (pre-test: M 3.25, SD 0.37; post-test: M 3.40, SD 0.39) and a no-intervention group, whose scores decreased (pre-test: M 3.25, SD 0.36; post-test: M 2.50, SD 0.38). The results also showed that the self-esteem of male tutors increased more than that of female tutors. Few other details are given about the delivery of the program and no insight is offered to account for any positive changes to tutors.

An RCT in South Africa (Mason-Jones et al., 2013) measured the effects of training secondary school students to become peer mentors for a sexual health and wellbeing program. Self-esteem changes were compared between the group of students receiving the training (N=203) and a control group (N=302) who received none. A range of self-esteem items were measured using the Self-Esteem Questionnaire (SEQ) (Dubois, 1996), such as 'I am happy with the way I can do most things' and 'I am happy with the way I look'. They found no significant difference between the experimental (M 3.00, SD 0.33) and control groups (M 2.95, SD 0.35) ($p$=0.71; CI 95%) after training. This study focused only on the training element of this program, so any changes to self-esteem after delivering the program itself is unknown. Furthermore, this study was deemed to be at high risk of bias so any conclusions made from its results must be made with caution (Table 2).

### *Psychological wellbeing*

A South African study measured overall psychological wellbeing (Visser, 2007). Peer leaders were used as positive role models within thirteen secondary schools to deliver HIV/AIDS education and support. Schools were given some flexibility over how they delivered the messages. These ranged from acting performances to displaying posters, facilitating class discussions and meeting with peers in a designated 'peer education office'. An assessment tool that measured self-regard, interpersonal relationships and happiness (Bar-On Emotional Quotient Inventory (EQ-I), Bar-On, 2000) was used to evaluate the program's impact on the overall psychological wellbeing of students exposed to the program. They found no difference between the pre- and post-test scores of learners in both groups (effect size = 0.002). However, these results are limited by the fact that the sample of mentors at post-test (N=1572) was different to pre-test sample (N=1386), so the differences observed were not within the same group and thus compromise the validity of the findings.

### *Self-confidence*

A doctoral thesis by Froh (2004) evaluated the 'Natural Helpers' program, which was also evaluated in another study in this review (Bausano, 2006). The program aims to identify students who are already seen as support figures by other students in the school and develop their helping skills through training. Self-confidence was measured using one item ('I feel more comfortable about myself in general') within a measure assessing skill acquisition (Acquisition and Maintenance of Skills Survey (Student)). The study found that those students acting as peer supporters scored higher (M= 143.98, SD = 13.96) than a matched comparison group (M= 135.92, SD = 15.28) on a measure that included a self-confidence scale (Personal Development Inventory). However, individual scores for each scale are not provided so it is not possible to isolate the self-confidence score, as leadership, co-operation and citizenship scales were also included.

Another doctoral thesis (Ellis, 2004) also looked at the effect of a peer support scheme on the self-confidence of mentors, referred to in the study as 'supporters', aged 16 and 17. Sessions were co-led with a teacher, lasted around 45 minutes and were delivered weekly. A sample of 99 peer mentors were compared with a sample of 759 students from two control schools that received no

intervention. Students in the experimental group reported higher self-confidence scores than the control groups after the intervention (Est. = .093, SE = .030). These effects were also shown to hold over time (Est. = .002, SE = .022).

### *Positive and negative affectivity*

A Doctoral dissertation by Bausano (2006) used a quasi-experimental design to measure positive and negative affect in peer supporters following a program called 'Natural Helpers'. This program functions by identifying those students that are already sought out for support within the school, in order to equip them with more enhanced supporting skills. Students submitted anonymous nominations for who they thought were 'natural helpers' within the school and a sample of these were chosen as peer supporters by the research team. These New Natural Helpers (n=54) and Experienced Natural Helpers (n=56) (those who were already in the role) were matched against two control groups: students nominated as Natural Helpers but not chosen by the research team (n=51), and those who received no nominations (n=61).

A combination of quantitative and qualitative data collection methods was used. Quantitative measures of affect were reported using the Positive and Negative Affect Schedule (PANAS) (Watson, Clark, & Carey, 1988). The mentors were asked to complete a 5-point Likert scale to determine how closely ten items suggesting positive affect, e.g. excited, alert and determined, and ten items suggesting negative affect, e.g. irritable, upset and distressed, applied to them. There were no significant results for this outcome measure, suggesting that participation in the program had no effect on the positive or negative affectivity of the Natural Helpers.

### *Social Stress*

A quasi-experimental study by Song et al. (2018) looked at the mental health effects of a one-to-one tutoring program on peer tutors (N=118) compared to a non-randomly allocated control group (N=99). The study was conducted with 7$^{th}$ and 8$^{th}$ grade students across 2 middle schools in rural China. The students were split by gender and then divided into the highest and lowest performing halves in each year group, based on their academic grades in a range of subjects. Tutoring pairs

were offered incentives, such as healthy snacks, to study together for thirty minutes per day, four times per week.

Mental health scores were self-reported using a ninety-item 'Mental Health Survey' developed by the research team, which generates a composite mental health score. This assessment tool was developed by the research team and has not been validated.

The overall mental health scores of tutors showed no significant change (M = 64.32, SD = 13.85, treatment effect = -0.0952). The tutors showed a significant decrease in 'social stress' scores (M = -0.497, SD = 0.209; $p<0.05$).

### *Guilt*

The study by Song et al. (2018) (see 'Social Stress' section) also measured levels of guilt experienced by peer tutors. The tutors experienced significantly higher levels of guilt following the program (M = 0.952, SD = 0.397; $p = 0.05$), which the authors posit may be due to their tutees not improving as much as hoped.

## Mentee outcomes:

### *Self-esteem*

An Australian study (Ellis et al., 2009) used a longitudinal research design to measure the long-term effects of a 12-week peer support program on a sample of 452 mentees in grades 10 and 11. The programme, developed by the 'Peer Support Foundation', includes one 45-minute peer support session per week for 12 weeks. They used a mixed methods approach to measure changes to self-esteem, using self-report survey questions (Self-Description Questionnaire II-Short (SDQII-S)) (Marsh, 2000) and a qualitative component in the form of open questions and a focus group. They found that the programme had no significant immediate or long-term effect on the self-esteem of students who received support from peer supporters.

### *Self-confidence*

The same study (Ellis, 2009) used quantitative and qualitative measurement tools to measure changes to self-confidence levels of year 7 mentees. Results from a self-report quantitative measure

(Review of Personal Effectiveness Scale (ROPE); Richards and Neill, 2000) showed that the intervention had no significant immediate effect on the mentees' self-confidence levels (M .017, SD .031), however significant effects were seen at follow-up (M .047, SD .017, $p<.01$). Semi-structured focus groups and open-ended survey questions were also used to collect qualitative data post-intervention. Following content analysis, they identified 'increased self-confidence' as a theme within both the open question responses and the focus group discussion. The qualitative data included comments that the program 'helped [them] to see the individual in [themselves]' and 'gave [them] more confidence to try new things' (Ellis, 2009).

### *Suicidality*

Only one study measured feelings of suicidality in participants. A randomised controlled trial (Wyman et al., 2013) sought to evaluate the whole-school effect of the 'Sources of Strength' suicide prevention program in 18 high schools across the United States. Peer leaders spread information about the program throughout their schools via presentations, public service announcements and various digital media. Before and after the intervention, all students attending the school were asked to report any suicidal ideation over the past 3 months and 12 months. Students reporting suicidal ideation in both the experimental (N=268) and control (N=185) groups decreased over 3 months with non-significant differences between conditions (*experimental*: pre: 14.8%, post: 11.6%; *control*: pre: 12.8%, post: 12.2%). This result is further limited by the use of an unvalidated outcome measure.

### *Life satisfaction*

A quasi-experimental study examined levels of Life Satisfaction in a sample of mentees (N=372) after an anti-bullying, peer-mentoring program in primary (N=6) and secondary (N=16) schools across England (Roach, 2014). The program pairs older mentors with young people between the ages of nine and twelve who were either currently being, or at risk of being, bullied. As with other studies that have taken place across multiple sites, there were variations in the way in which this program was delivered and schools were given a level of autonomy over program design. The majority of schools opted to offer more than one type of mentoring format. Most common was a

drop-in service, with one-to-one meetings being the next most common and group sessions being the least. Most students (71%) only took part in 1-5 mentoring sessions over the course of a school year, with 22% attending 6-11 sessions and 7% using the service between 13 and 30 times.

Life Satisfaction was measured using Huebner's (1991) Students Life Satisfaction Scale (modified). This self-report tool measures agreement with a series of statements along a five-point Likert scale, from strongly disagree (0) to strongly agree (4). Example statements include, 'My life is going well' and 'I wish I had a different kind of life'. Non-significant improvements to life satisfaction were seen in the mentored students compared to non-mentored students after one year (b = .12; $p$ = .86), though girls recorded lower scores than boys. Interestingly, they found that mentees who attended a *low* number of meetings had higher levels of life satisfaction than those who took part in a 'medium' (b = −1.8; $p$ = .14) or 'high' (b = −.38; $p$ = .74) number of meetings. However, these were also non-significant results. The authors suggest that an explanation for this could be that those attending a large number of sessions were doing so because they were struggling to a greater degree. The results also showed that older mentees were more likely to have lower satisfaction (b = −.31; $p$ = .71) than younger mentees following the intervention.

### *Quality of Life*

In a cluster randomised controlled trial, (Shah et al., 2001) reported an improvement in overall quality of life for Australian secondary school students with self-reported asthma symptoms using the 'Triple A' (Adolescent Asthma Action) program. A total of 251 students reporting a 'recent wheeze' completed all assessments.

Delivering the intervention across six high schools in rural Australia, the researchers used a 'stepped' approach to peer education: students in year 11 took part in a workshop on how to educate peers on asthma management; these year 11 students broke into small groups to deliver three 45-minute lessons to year 10 students; these year 10 students then presented the key messages to a final group of students in year 7.

Quality of life for students in years 7 and 10 who reported asthma symptoms was assessed using the Paediatric Asthma Quality of Life Questionnaire (PAQLQ) (Juniper et al., 1996), which includes a measure of the emotional impact of asthma. A significant improvement was reported for male students in the 'emotions' domain of the questionnaire (2.2% to 37.4%; 95% CI; $p = 0.02$).

### *Learning Stress*

A study by Song et al. (2018) (see 'Social Stress' section) compared changes in levels of learning stress between a group of tutees (N=124) a non-tutored group (N=117). Tutees' overall mental health scores decreased significantly over the course of the intervention (M = 61.45, SD 15.22; effect size = -4.115; $p< 0.01$). This score included an increase in learning stress, which was a significant treatment effect of the intervention (1.027, SD 0.413; $p<0.05$). The authors suggest that this may have been worsened by the tutees' identification as the lowest performing students. This outcome is limited by a lack of detail about what 'learning stress' entails, as this is open for interpretation.

## Peer leader training and selection

Peer leaders were selected in a variety of ways. Generally, they were chosen via a combination of peer and teacher nominations, or by volunteering. However, two studies used alternative methods of selecting peer leaders, both of which evaluated peer-tutoring programs: one study offered tutor training to freshman students as an elective subject (Yogev and Ronen, 1982), while the other divided classmates by gender and matched the highest performing students with the lowest (Song et al., 2018). Of the four studies that included a teacher selection element (Ellis, 2004; Ellis, 2009; Visser, 2007; Wyman, 2010), the criteria for selection included: good interpersonal skills, responsible, enthusiastic, willing to help others, existing contribution to school community and being a positive role model. Two studies deliberately selected peer leaders from a diverse range of friendship groups (Visser, 2007; Wyman, 2010). Figure 3 (below) demonstrates some of the common criteria used to select mentors, based on the details given in the included studies in this review.

All studies reported some kind of interactive element to the delivery of their peer training. The level of interactivity varied from basic discussion groups to games, exercises and role-play. In some cases, these were combined with more traditionally didactic methods, such as lectures and talks (Yogev and Ronen, 1982). The content of the training also varied. Four studies covered teaching skills in their peer training: two of these were preparing students to be peer educators (Shah et al., 2001; Yogev and Ronen, 1982) and two were training them for peer support programs (Ellis, 2004; Ellis, 2009). Six studies incorporated some basic counselling skills into their training program, such as active listening, emotional validation and establishing trust. Of these, four were training students for explicit peer support interventions (Bausano, 2006; Ellis, 2004; Ellis, 2009; Froh, 2004), one used a combination of peer support and education as an HIV/AIDS prevention strategy (Visser, 2007) and another was training peers to deliver sexual health education (Mason-Jones et al., 2013). Only two studies discussed educating the peer leaders about the program's area of focus, namely HIV/AIDS (Visser, 2007) and the 'psychology of adolescence' (Yogev and Ronen, 1982). Furthermore, three studies addressed the potential stressors of the role by teaching the peer leaders some personal coping strategies (Bausano, 2006; Froh, 2004; Wyman et al., 2010). Uniquely, Shah et al. (2001) adopted a training model that cascaded information through age groups, by first training year 11 students, who then taught year 10s, who subsequently handed down the information to groups of year seven students.

The duration of training periods ranged from a one-off session (Shah et al., 2010; Wyman, 2010) to several days (Bausano, 2006; Ellis, 2004; Ellis, 2009; Froh, 2004) to continuous training throughout the program (Mason-Jones et al., 2013; Visser, 2007; Yogev and Ronen, 1982).

Two of the 11 studies gave no details about the training involved (Roach, 2014; Song et al. 2018).

*Figure 3 Common peer mentor qualities found in included studies*




## Discussion

This systematic review is, to the author's knowledge, the first to isolate the global evidence on the mental health and wellbeing outcomes of peer-led interventions in primary and secondary schools (where those peers are currently attending that same school). An extensive search of published and unpublished literature found 11 studies that fit the eligibility criteria.

A narrative approach was used to synthesise the evidence and present the range of mental health and wellbeing outcomes represented in the literature. Many of the outcomes were measured in only one or two studies, which limits the ability to evaluate the strength of each outcome. The evidence base is not yet strong enough to draw firm conclusions about the mental health effects of peer support programs in schools.

The GRADE framework (Guyatt et al., 2011) was followed as a guideline to evaluating the overall quality of evidence. A comprehensive risk of bias assessment was carried out for each included study; the studies were largely low-risk, however issues were found regarding follow-up rates and representativeness of samples. One study (Mason-Jones et al., 2013) was found to have a high risk of bias, with issues around key processes such as randomisation and blinding. There is also evidence of publication bias, as three of the included studies are unpublished dissertations with non-significant results. This contributes to the 'file-drawer problem' (Rosenthal, 1979) that arises from authors selectively publishing their results. There is inconsistent outcome reporting across the studies, making it difficult to determine effects.

Peer-led interventions appear to be most commonly used for issues such as bullying, mild psychological issues and physical health issues. The proportion of programs used for educational or supportive purposes was level. The outcomes were generally more related to wellbeing and none of the studies measured diagnostic mental health outcomes, such as depression or anxiety. A small number of significant results were found for mentors and mentees. For mentors, significant improvements were seen to self-confidence (Ellis, 2009) and social stress (Song et al., 2018). However, one study found a significant rise in tutors' levels of guilt (Song et al., 2018). For mentees, studies found a significant increase in the emotional impact of living with asthma (Shah et al., 2001) and a significant increase in self-confidence over time, although one study observed a significant increase in learning stress and decrease in overall mental health (Song et al., 2018).

Methods of training peer leaders ranged from short, intensive courses to continuous input throughout the program. Training locations vary widely between in and out of school locations. Little rationale was given across all studies for making decisions around key processes, e.g. delivery methods, content or duration etc. This was the same for other key processes, such as peer leader selection, supervision and program delivery. Little evidence exists in the wider literature to support these key implementation decisions. Many studies failed to describe core elements of their

implementation procedures or conduct any evaluation of them, which may have been valuable contributions to this research gap.

None of the studies in this review identify a definition of a peer or include any qualitative data on young people's perceptions of what a peer is, though the need for further exploration of this was considered by one author (Roach, 2014). Most studies chose mentors based on a set of criteria developed either by the school or research team. These often focused on esteem within the school on both academic and social levels. However, few gave any rationale for these criteria actually equating to a more effective mentor or provided evidence to support their decisions. This also suggests a level of assumption about what makes an *effective* peer leader, as there is no evidence to support this.

Peer leaders were generally school-selected. In instances where peer nominations were involved, the final selection was generally still made by the school. There may be scope to include students in this selection process to a greater degree in order to match the peer supporters more appropriately. The 'Natural Helpers' intervention (Bausano, 2006; Froh, 2004) asked students to identify their peers who were already seen as supportive, which was unique in this sense. However, there was limited discussion around what qualities made them seem more supportive, which may have been useful.

The lack of significant results found in this review suggest that the programs were ultimately not effective. However, this may also be a reflection of the outcomes chosen to evaluate. There is a lack of justification of outcome choice across all included studies, so it is unclear why each outcome was considered important. It seems from the literature that outcomes are informed by the particular intervention, whereas it may be more effective for interventions to be more clearly guided by desired outcomes. Recent statistics on the mental health of children and young people in the United Kingdom (NHS Digital, 2017) may guide future developers in terms of which outcomes affect their target population, and therefore which might be most valuable to address.

Although it has been useful to isolate the effects of peer-led interventions on school-aged children in this review, it would be valuable to conduct a similar search to include young adults in higher education institutions. This age group was chosen in order to focus on effects within a school environment, but increasing recognition of neurodevelopmental changes continuing into early adulthood justifies the exploration of peer support in institutions with older age groups, such as universities.

This review has addressed a current and urgent research gap in an area of national interest and can inform the implementation of these programs going forward. It is the first review of its kind to isolate the mental health effects of school-based, peer-led programs, making a valuable contribution to the literature. The literature search was very extensive and covered a total of 11 academic databases, increasing the likelihood of all relevant studies being captured. This returned an unusually large volume of studies; however, this was expected given the broad topic and extent of the search. This review is also strengthened by an in-depth quality and risk of bias assessment using validated tools.

This review also has some limitations. First, although every attempt was made to define 'mental health' and 'wellbeing' outcomes in the eligibility criteria, definitions may vary between researchers. Researcher judgement and validated assessment tools were used when doubt occurred over the eligibility of an outcome. Some excluded studies had outcomes that pertain to wellbeing, such as school connectedness, but were not thought of as a close enough representation of wellbeing to be included in this review. Second, the number of results returned from the initial literature search suggest that the search strategy may have needed to be refined. However, a large return was expected given the broad nature of peer support, poor reporting of outcomes in abstracts and that the search was applied to a large number of databases. Lastly, even with the extent of this literature search, it cannot be guaranteed that all relevant studies were captured.

In conclusion, there is some evidence to suggest that peer-led interventions in schools can benefit certain mental health and wellbeing outcomes. Some improvements were seen to both mentors and mentees, but further research using robust designs is needed in order to expand upon and increase

the reliability of these findings. An interesting conclusion of this review is that peer-led interventions are used to address a number of issues within schools but a range have observed mental health benefits, suggesting these outcomes are not reserved only for those programs that target them. There are a range of considerations to be made in the future around peer selection, training and supervision, as well as the delivery of interventions, as no solid evidence base exists to support these implementation decisions. More qualitative data is also needed to better understand young people's views of these interventions - given that these programs are run by students for other students, this is a crucial gap in the current literature base.

| **What is already known on this topic** |
| --- |
| 1. Peer support interventions are widely used in schools<br>2. Peer-led interventions are used to address a range of issues<br>3. Little understanding of true effects |
| **What this study adds** |
| 1. Deeper understanding of global evidence base<br>2. Some evidence of positive effects to mental health and wellbeing for mentees and mentors<br>3. Conceptualization of school-aged peer supporter<br>4. Recommendations for future research |

# Chapter 3: Pilot Study

## Introduction

The global evidence around peer-led interventions suggests that training mentors is an important stage of program implementation. This involves teaching the prospective mentors a range of introductory skills in order to prepare them for their role as a mentor. There is little consensus in the literature around key aspects of an effective training program, such as the content, duration and location.

This pilot study hopes to contribute to the existing evidence base by assessing the feasibility of delivering a novel, online peer mentoring tool to students in a UK secondary school. We recruited a small sample of 18 students (aged between 16 and 17) to take part in the study. A mixed methods approach was used to collect quantitative and qualitative data.

We discuss the feasibility of delivering this study on a larger scale. We also present some preliminary data on the experiences of the participants using both quantitative and qualitative data analyses.

## Objectives

This mixed-method pilot study intended to evaluate the feasibility and initial effect of a novel, online peer mentor training tool, 'Friend2Friend'. The purpose of this study was to determine whether the processes used in this study would be acceptable and feasible on a larger scale. The objectives of this were to investigate:

1. The feasibility of implementing 'Friend2Friend' within a secondary school context

2. The extent to which the Friend2Friend training program affects adolescents' levels of confidence, awareness and knowledge around supporting their peers with mental health needs.

## Ethical Considerations

This study was granted ethical approval by the Medical Sciences Interdivisional Research Ethics Committee (MS IDREC) at the University of Oxford on 7th March 2019. This study was conducted in compliance with the Declaration of Helsinki (1964) (World Medical, 2013).

We completed a CUREC 1 form, study protocol and all relevant documents, which were then submitted to the MS IDREC for ethical approval. These were submitted alongside all necessary supplementary documents, which were adapted from templates within the appropriate Approved Procedure (AP 25).

There were some important ethical issues that had to be considered. As the participants were below the age of 18, their status as 'competent youths' had to be confirmed by the Central University Research Ethics Committee (CUREC). Young people below the age of 18 but above the age of 16 can be deemed 'competent youths' if the nature of the study is deemed to be low-risk. This study fulfilled criteria for low-risk which was confirmed by CUREC.

Consent forms were developed for the young people to sign, having been provided with a Participant Information Sheet which included detailed information about all aspects of the study. These consent forms were signed prior to beginning the intervention and it was reiterated at each time point that they could withdraw this at any time. All participants consented to all parts of the study and nobody withdrew consent at any time point. Participant information sheets were also made available on the day of the training intervention and the researcher offered the opportunity to ask questions about the study. Each volunteer's parent or guardian was made aware of the study prior to its start date through detailed parent information sheets sent out by the school.

A potential risk of undertaking the intervention was that the participants, having gone through the training, would then feel obliged to use the skills in practice at their school or inappropriately tried to help their peers without the skills to do this. This may have resulted in the misuse of any techniques covered in the training or a lack of confidence in employing them, with the potential for negative repercussions. Furthermore, any support offered outside of a school-sanctioned

programme would be difficult to regulate. This risk was mitigated by making it expressly clear to all volunteers they were under no obligation to become a peer mentor simply because they were involved in the study.

## Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) Framework

The feasibility and implementation challenges of the Friend2Friend intervention will be considered in the context of the RE-AIM framework (Glasgow, Vogt, & Boles, 1999). This framework was developed to encourage researchers to evaluate and report the real-world public health impact of their intervention (Glasgow & Linnan, 2008; Glasgow et al., 1999). The framework can be applied at all stages of a research project (Dunton, Lagloire, & Robertson, 2009; Farris, Will, Khavjou, & Finkelstein, 2007). RE-AIM has been widely used in implementation research but it has been found to be reported inconsistently (Gaglio, Shoup, & Glasgow, 2013). Glasgow et al. (1999) demarcates five points of consideration: reach, effectiveness, adoption, implementation and maintenance.

Reach refers to the size and characteristics of the group who would be willing to participate in the intervention or initiative. The level to which this group is representative of the wider population is also important to consider. Effectiveness relates to the importance of assessing all outcomes, both positive and negative, of an initiative. Glasgow et al. (1999) emphasise the importance of measuring effectiveness beyond biological and usage outcomes, but also evaluating the behavioural outcomes for participants, staff delivering an intervention and any other stakeholders involved. Adoption refers to the range of settings and agents that are willing to initiate a program, taking numbers and representativeness of these settings into account. Implementation refers to how closely the delivery of an initiative is to that which was intended by the developer, as well as the level of adherence of participants on a more individual level. These are critical points for the success of an intervention, so it is therefore important to evaluate implementation challenges at the research stage (Glasgow et al. 1999). Maintenance refers to the extent to which an initiative becomes assimilated into the culture of the target setting. This depends both on individual behaviour change and setting-level policy change (Gaglio et al., 2013).

## Methods

### Recruitment

The first stage of the recruitment process was to contact secondary schools inviting them to participate in the study. A recruitment request letter was developed during the ethical application stage and was approved by CUREC (appendix III).

A number of secondary schools were contacted via e-mail. One school was also visited by TK in order to discuss the study with the Head of Sixth Form and Head of Pastoral Care. This school subsequently agreed to take part. Around fifteen further schools were contacted to request their participation but none responded to recruitment requests.

All recruitment documents were approved by the Medical Sciences IDREC at the University of Oxford in March 2019. Within the CUREC 1 form for this study, it was specified that we would liaise with each recruited school in order to establish how best to recruit individual participants based on the teachers' knowledge of the school environment. After discussing this process with the Head of Pastoral Care at the intervention school, it was agreed that the recruitment poster and both participant and parent information sheets would be sent for them to display and distribute within the school. These documents contained contact details for both researchers involved and potential volunteers were asked to contact either one of us or the designated pastoral lead within the school. All students who expressed interest were then screened by the school and any who the designated teacher leads thought may be adversely affected by the intervention, such as those with known and current mental health issues, were discussed and considered for possible ineligibility.

There is a lack of evidence about the most effective characteristics to select for when choosing peer leaders. Therefore, we initially set very broad parameters for inclusion. Many studies have asked teachers to select students based on qualities related to achievement and social status, such as academic success, popularity among classmates and responsibility (Al-Iryani et al., 2011). Other studies have deliberately recruited students with mixed characteristics (Hart et al., 2018), which prescribes to the idea that mentoring skills are not necessarily related to abilities in other domains.

There is no conclusive evidence suggesting any set of characteristics or personality type is best suited to the role of a peer supporter. Therefore, discussions were held with the intervention school around which students would be selected to take part and it was decided that no student would be excluded from the study based on any perceived lack of ability or skill to be a peer mentor.

## Sample

Our sample consisted of 18 (aged 16-17) students from year 12 at one secondary school. Seven of the students were male and 11 were female. The decision was made to recruit older students within the school as this is the most common demographic represented in the literature. The initial recruitment target of 40 students from three schools was not met as only one school responded to recruitment efforts.

## School Profile

This research was carried out at an independent day and boarding secondary school located in a rural county in the East of England. The school is situated in a small coastal town and has around 600 pupils. According to a recent report by the Independent Schools Inspectorate (2018), its students are predominantly of White British background and above the national average in terms of overall ability. The report states that the most recent GCSE and A-Level results were higher than the national average at time of writing. The school met all regulatory compliance criteria assessed by the report.

### *Existing Peer Support Scheme*

The school had a pre-existing 'Pupil Support Scheme' that trained year 12 students to be peer mentors for younger students in the school. Mentors were recruited and trained towards the end of the academic year, in preparation to become peer supporters in their next academic year. The Head of Pastoral Care at the school approached the new cohort of year 12 mentors to take part in this study.

## Intervention

### 'Friend2Friend'

The intervention being evaluated was an online, interactive peer mentor training tool called 'Friend2Friend'. This program was developed by a health simulation company called Kognito, based in New York, USA, and designed specifically to teach basic counselling skills to adolescents. The program is publicly available online but, despite extensive use in North America, this was the first pilot evaluation in the United Kingdom. Kognito has developed a range of similar computer-based training programs that have been employed extensively across the USA.

The training begins with avatars of two adolescent school friends introducing the issue of emotional difficulty and stress, highlighting ways in which these may manifest themselves in young people. The trainee then begins the conversation simulation, during which they are asked to choose from a list of responses based on what the 'peer' says (see appendix VIII for images). In this way, the conversation is directed by the participant's responses and thus imitates a real dialogue. The program provides written feedback on each response and makes recommendations for alternative replies they could have given. The trainee is also able to earn rewards, such as a 'Listening Badge', based on their performance.

All prospective volunteers were invited by the link teacher, who was also the school's Pastoral Lead, to take part in the study. All students had been sent a copy of the Participant Information Sheet (PIS) (Appendix IV) prior to their attendance on the day.

The intervention took place in a school computer room over one lunchtime and lasted around 30 minutes. Each participant was provided with a computer and a set of headphones to use for the duration of the training. Both the link teacher and a member of the research team (TK) were present in the room at all times. The study was introduced and instructions were given as to how to access and complete the training. Participants were asked if they had any further questions about the study and were told that additional copies of the PIS were available should any aspect be unclear. They were given a brief introduction to the theory of peer support and told an outline of what the training

session would involve. All participants were given consent forms to read through and sign. All 18 consent forms were signed and returned.

## Outcome Measures

### Quantitative measures

#### *Friend2Friend Questionnaire*

The Friend2Friend Questionnaire [see appendix VI] was specifically designed by Kognito to evaluate the Friend2Friend program. The questionnaire uses a combination of Likert scales and open-ended questions to assess the participant's preparedness and confidence to recognise and act upon signs of stress in a friend. The questionnaire was delivered at pre-test, post-test and at follow-up six weeks after the training.

The pre and post surveys were delivered online directly before and after the Friend2Friend intervention. Follow-up surveys were sent out the school e-mail addresses of all the participants who took part in the study six weeks after the intervention took place.

The trainees were asked to rate their preparedness on a 5-point Likert scale (from 'very low' to 'very high') for a number of items, such as to 'recognise when a friend's behaviour or actions are a sign of being stressed out'. Using a 4-point Likert scale (from 'very unlikely' to 'very likely'), participants were then asked to rate the likelihood of their taking certain actions, such as 'connecting a stressed out friend to an adult who can help'. Finally, confidence levels were measured on a 4-point Likert scale (from 'strongly disagree' to 'strongly agree') across six items, such as 'I feel confident in my ability to talk about my concerns with a friend showing signs of being stressed out'. The pre-test survey also asked how many friends each trainee had been concerned about or helped, while the post-test survey included questions relating to the quality and acceptability of the course.

## Qualitative measures

### Focus Group

A focus group was carried out in order to collect additional qualitative data from a sample of students who had received the training. The Nominal Group Technique (NGT) (Van de Ven & Delbecq, 1972) was used as it has been recommended for use with this age group.

An NGT session begins with a facilitator posing a question or statement to a small group of five to eight participants (Van de Ven & Delbecq, 1972). The participants are asked to work in silence for a set amount of time and instructed to independently write down their ideas or answers to the question, with no interaction between them. The groups are 'nominal' because the ideas are generated individually in this way, which eliminates the risk of one person dominating the discussion (Lomax & McLeman, 1984; MacPhail, 2001).

The group facilitator then asks each participant, one by one, to offer one of their answers. These are written onto a flipchart by the facilitator. Answers are collected in this 'round-robin' fashion until all answers have been exhausted. This format makes it easier to collect a large number of ideas from the participants (Porter, 2013). It is important for the facilitator to request that no-one in the group shows any reaction or response to other people's ideas. This minimises the risk of individuals being influenced by others' reactions in the group (Lomax and McLennan, 1984).

Once all ideas have been collected on the flipchart, each member of the group must rank the ideas in the list from most to least important by giving each a number of points, ranging from 1-10 (or however many ideas are created). From these, the ideas are ranked overall. The facilitator then leads a discussion with the group about each point.

These discussions were due to be recorded on a portable Dictaphone device. Specific consent to be voice-recorded was sought from each participant prior to beginning the study. However, due to time constraints imposed by the school on the day of the focus group, it was not possible to conduct the voice-recorded element. Within the time available, it was also only possible to cover one of the focus group questions using the Nominal Group Technique, resulting in one ranked set of

responses. Though this was useful data, the absence of a free discussion during the focus group limits the study in that participants did not have the opportunity to express their ideas in more detail. The school was contacted following this initial session in an attempt to arrange another focus group, however we received no reply.

### Open-ended questions

Open-ended questions were used to gather qualitative data. The post-test survey included space for the students to comment on what they would change to make the training more effective. Furthermore, all participants who attended the follow-up focus group session were given a sheet with five open-ended questions. These questions broadly related to the acceptability of the training, behaviour changes since completing the training, changes in perception of being a peer mentor, and the best part about being a peer mentor.

## Quantitative analysis

### Descriptive statistics

Descriptive statistics were deemed to be the most appropriate analytical method for the research question. The data was cleaned using an Excel spreadsheet. Descriptive statistics (mean and standard deviation) were generated using IBM SPSS Version 25 (IBM, 2017) and the results are presented in a narrative form. All string data items were converted to numerical data, which included assigning numbers to Likert responses, e.g. on a 5-point scale, ‘very low’ assigned a value of 1 and ‘very high’ assigned a value of 5. This enabled the generation of the numerical mean and standard deviation scores in the software.

## Qualitative Analysis

### Thematic Analysis

Thematic analysis is now a well-established qualitative analysis method that involves identifying and reporting themes in a data set (Attride-Stirling, 2001; Braun & Clarke, 2006). As this was a pilot study, thus not hypothesis-driven, the analysis was conducted using an inductive, data-driven

approach. Themes were developed based on a sequence of 'codes' that were extracted from the text. A 'code' is a brief, meaningful chunk of text that is pertinent to the research question (Attride-Stirling, 2001).

The qualitative data was analysed using a thematic approach, as laid out by Braun and Clarke (2006):

1. Familiarising yourself with the data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

The first stage was to read through the data a number of times in order to become familiar with the text. The next stage was to systematically search the text and manually assign codes to pertinent pieces of data. This process generated a long list of codes to be divided into themes. During this process, any repeating patterns or pieces of coding were observed and ideas were developed for broader themes (Braun and Clarke, 2006).

A process of thematic networking was then performed through the development of a sequence of thematic maps (Attride-Stirling, 2001) (see appendix IX). The long sequence of codes was then more easily divided into initial themes. Any pieces of code that appeared to address a similar point were grouped together, with some codes fitting into several themes (Braun and Clarke, 2006). Braun and Clarke (2006) discuss two types of theme: semantic and latent. Semantic themes are concerned with the face-value meaning of the text, whereas latent themes look to interpret meanings and ideologies beyond the data. This analysis focused on identifying latent themes in an effort to address the broader conceptualizations of the topic.

Throughout the development of the final themes, the original text was re-visited to ensure that they accurately encapsulated the content of the data. The themes were kept flexible and re-organised

where necessary in a process of refinement and review. Once the themes and sub-themes were finalised, they were reviewed against the text once more in order to ensure fidelity to the data.

# Results

## Acceptability evaluation

As part of the post-test survey, students were asked a series of questions relating to the acceptability of the training.

Fifteen (83%) students who took part in the training also completed the post-test survey. All except one of the participants said they would recommend the course to a friend; however, the singular 'no' response was made in the context of all other responses from that respondent being very positive about the course. Most of the respondents rated the course as 'very good', while four gave a rating of 'excellent' and one rated it as 'good'. Furthermore, most either 'strongly agreed' or 'agreed' that all students should take the course. Most also felt, to either a 'great' or 'very great' extent, that the course was useful, well-constructed and easy to use. The majority of students felt to either a 'very great' or 'great' extent that the training was 'likely to help a friend who is stressed out', and all believed that the training was able to help them connect a stressed out friend to an adult who can help. With regards to the scenario that the trainees were asked to complete, one person did not think great or great extent.

## Quantitative results

***Friend2Friend Questionnaire***

Of the 18 students who completed the training, all returned a completed pre-rest survey (100% response rate) and 15 (83%) completed the post-test questions, though only five (28%) students completed the survey at follow-up. The pre- and post-tests were conducted under the supervision of the researcher during the initial training session, whereas the follow-up surveys were sent to the students' school e-mails six weeks later. Furthermore, due to delays delivering the initial training session, the six-week point fell two days before the school broke up for its summer holiday, which

may also explain the very poor response rate. The number of responses may have been increased had the researcher attended the school to conduct the data collection session in person. It was not possible to reach statistical significance at any data collection point as the sample size was too small.

Figure 1 shows the results of the quantitative analysis. Overall, the trainees showed an improvement in all aspects of preparedness immediately after receiving the training. However, there was a decrease in mean scores at follow-up for all except 'preparedness to help a friend who is thinking about suicide find an adult who can help' (pre: M = 4.06; post: M = 4.40; follow-up: M = 4.60). This suggests that any positive effects were not holding over time, which may be the consequence of delivering one training session only. Further data collection time points would be useful to determine the rate and cause of decline in these scores. The largest increase at post-test was in the students' preparedness to recognise physical signs of stress in a friend (pre: M = 4.00; post: M = 4.67).

The next set of questions evaluated how likely the students were to take action when concerned about a friend. The students were more likely to talk with a friend about their concerns immediately after the training (pre: M = 3.39; post: M = 3.80), with that result remaining constant at follow-up. An increase was also seen at both post-test and follow-up to the likelihood of the mentors connecting a friend to an adult, though the mean scores for this item were lower than most others at baseline (M = 2.94, SD = .802).

The students were also asked about the likelihood of seeking adult support for themselves. This increased considerably at post-test but was seen to decrease to only slightly above baseline over time. Further exploration is needed into the reasons for this decline as this was not discussed any further in this study. As this question focuses on specifically 'adult' help, it is unclear whether this result means the trainees would be less likely to seek support in general, or rather that they might now be more likely to seek support from a friend. Similarly, a large increase and then decrease was seen between post-test (M = 4.47; increase of .69) and follow-up (M = 4.40) in response to, 'I feel confident that if I were stressed out, I would consider talking to an adult who can help'.

Trainee confidence levels increased at both post-test and follow-up in all but one domain ('I feel confident that if I were stressed out, I would consider talking to an adult who can help', which decreased by .47 at follow-up). They felt more confident in their ability to talk to a friend they were concerned about (pre: M = 4.11; post: M = 4.67; follow-up: M = 4.80), which slightly contradicts the decrease in preparedness scores at follow-up that was seen earlier. There was an overall increase over time in all items to do with referring a friend to adult help, with the largest increase being seen in the respondents' confidence to recommend that a friend seek adult help (pre: M= 4.00; post: M = 4.53; follow-up: M = 4.80). The number of students who believed that it is the role of students to connect their friends to an adult who can help also increased at each time point (pre: M = 4.33; post: M = 4.40; follow-up: M = 4.80).

In summary, these results suggest an improvement to the students' sense of feeling prepared and confident enough to support a peer. The increase in preparedness appeared to diminish over time in most domains, although these results are marred by a poor follow-up rate. Students were more likely to talk to a friend about their concerns and more likely to refer them to an adult for help. However, the students appeared less likely to seek adult help for themselves.

*Figure 4 Results of Friend2Friend questionnaire scores*

| | **Pre (n = 18)** | **Post (n = 15)** | **Follow-up (n = 5)** |
|---|---|---|---|
| | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* |
| **How would you rate your preparedness to:** | | | |
| Recognise when a friend's behaviour or actions are a sign of being stressed out? | 4.39 (.698) | 4.73 (.458) | 4.60 (.548) |
| Recognise when a friend's physical appearance is a sign of being stressed out? | 4.00 (.840) | 4.67 (.617) | 4.40 (.548) |
| Talk about your concerns with a friend showing signs of being stressed out? | 4.28 (.752) | 4.67 (.488) | 4.40 (.548) |
| Motivate a friend who shows signs of being stressed out to talk with someone who can help? | 4.06 (1.110) | 4.53 (.516) | 4.20 (.837) |
| Recommend to a stressed out friend that they can talk with an adult who can help? | 3.83 (.857) | 4.47 (.516) | 4.20 (.447) |
| Help a friend who is thinking about suicide find an adult who can help? | 4.06 (1.197) | 4.40 (.632) | 4.60 (.548) |
| **How likely are you to talk about your concerns with a friend showing signs of being stressed out?** | 3.39 (.698) | 3.80 (.414) | 3.80 (.447) |
| **How likely are you to connect a stressed out friend to an adult who can help?** | 2.94 (.802) | 3.27 (.458) | 3.60 (.548) |

| | | | |
|---|---|---|---|
| **How likely are you to consider talking to an adult who can help if you are stressed out?** | 2.94 (.938) | 3.53 (.516) | 3.00 (1.225) |
| **Please rate how much you agree/disagree with the following statements:** | | | |
| I feel confident in my ability to talk about my concerns with a friend showing signs of being stressed out | 4.11 (.758) | 4.67 (.488) | 4.80 (.447) |
| I feel confident in my ability to recommend to a stressed out friend that they talk with an adult who can help | 4.00 (1.029) | 4.53 (.516) | 4.80 (.447) |
| I feel confident I know where a stressed out friend can find an adult who can help | 4.33 (.485) | 4.67 (.488) | 5.00 (.000) |
| I feel confident in my ability to help a friend that is thinking about suicide find an adult who can help | 4.33 (.485) | 4.67 (.488) | 5.00 (.000) |
| I feel confident that if I were stressed out, I would consider talking to an adult who can help | 3.78 (1.114) | 4.47 (.516) | 4.00 (1.225) |
| Part of the role of students is to connect stressed out friends to adults who can help | 4.33 (.485) | 4.40 (.507) | 4.80 (.447) |

## Qualitative results

### *Overview*

At the beginning of the focus group, a sheet containing five questions was handed to each of the participants (appendix VII). All eight students in attendance completed these questions and the responses were subsequently analysed using thematic analysis.

The questions focused on the students' experience of the training and their perceptions of being a peer mentor following training. Using the five stages of conducting a thematic analysis laid out by Braun and Clarke (2006), the data was searched and 'codes' were manually applied to relevant pieces of text, before grouping these into overarching 'themes' and sub-themes using a thematic mapping process (see appendix IX for maps). The responses (appendix X) that were returned from the participants generally fell under two main themes: 'experience of the training', and 'being a peer mentor'. A group of themes and sub-themes related to each of these headings was developed and are presented below. Participants will be referred to by the letter 'P' and a number, e.g. P1, within the text.

### *Experience of training*

With regards to the training experience, most students felt that it had been positive and worthwhile. A number of students felt that the training had increased their enthusiasm for becoming a peer mentor. Few elaborated on their reasons for this, however one participant said the training 'encouraged [me] to help people who are struggling' (P6). This increased enthusiasm may be as a result of understanding the role better, which was also a key theme across the data. Students felt that they now had a clearer understanding of what was expected of them, which can be illustrated by the following quotes:

> *'[The training] has made the role more clear [sic] as to what to do and how situations should be handled in a more controlled manner'* (P1)

> *'Originally I hadn't been aware of what it [being a peer mentor] entails'* (P7)

This suggests that the program was effective in clarifying the duties and parameters associated with being a peer mentor. Some suggested that the training validated their existing practices in terms of how they already communicate with their friends, which gave them confidence in their abilities as peer mentors:

> '*It was useful in terms of telling me I was communicating with people in the correct way*' (P5)

> '*Informative and useful in reinforcing some of the ways that I already interact with my friends.*' (P2)

Conversely, a small number suggested that they were being told things they already knew and therefore felt that their behaviours had not really changed as a result:

> '*To an extent it has slightly* [illegible] *how I interact but I am used to talking through problems with my friends so am quite established already in how to deal with my friends*' (P2)

Another subset of students said that the training had not changed how they interact with their friends, although some felt more aware of what to look out for in others.

The simulation element of the program was generally received well by the volunteers, who found it to be an engaging format that used a relatable scenario. This can be illustrated by the following remark:

> '*It was useful it* [the training] *being interactive as well rather than written as I felt better able to engage with the situations*' (P2)

### *Being a peer mentor*

With regards to being a peer mentor, the participant responses fell into two key themes: 'benefits to self' and 'benefits to others'. There was a roughly even weighting between codes of text relating to each.

The students felt there were a range of personal benefits associated with being a peer mentor. There was wide acknowledgement that training to become a peer mentor involves learning a range of new skills. A range of basic counselling skills were identified as useful skills by the students, such as being non-judgemental, showing empathy and being cautious with giving advice, and knowledge of how and when to refer someone for adult help. One participant, who was already acting as a mentor for a younger student in the school, reflected on their use of these new skills since taking part in the Friend2Friend training:

> *'I have already used some techniques in my support skills for [a younger] student who I am helping at the moment'* (P8)

There was an overall trend in the data that being a peer mentor increased a feeling of connectedness to others. The students felt more aware of how others may be feeling and some reflected that they enjoyed the sense of responsibility that this gave them. Some said that one of the best parts of being a peer mentor is being able to help their peers and to do good for others, which appeared to give some sense of reward. One reported feeling more trusting of others, which perhaps suggests a sense of community spawned by the experience.

As well as personal benefits, there were a number of prosocial advantages that the prospective mentors identified. There was an overall sense of sacrificing for others and a willingness to be understanding and patient with people. This was succinctly summarised by one participant, who felt the best part of being a peer mentor is:

> '*...the ability to make genuine progress that is noticeable and beneficial to someone's life*' (P1)

The students largely felt that the best part of being a peer mentor is the ability to have a positive impact on someone's life, specifically when people are experiencing difficulties.

Although these findings offer valuable insight into young people's perceptions of mentoring, they are somewhat limited as the responses were given by students who are yet to experience being a peer mentor.

## Focus group

### *Process*

The intention of the focus group was to ask a small number of questions to the group using the Nominal Group Technique (Van de Ven and Delbecq, 1972). This involves posing a question, determining a ranked list of responses and then conducting a recorded free discussion.

On the day of the focus group, time constraints set by the school meant that only thirty minutes were available to conduct the group. The students were given around ten minutes to complete the question sheet [Appendix VII] at the start of the group, which only left enough time to answer one question using the NGT format. Unfortunately, there was also not enough time to conduct the recorded element of the group. This severely limited the amount of data that was able to be collected. However, it was still possible to collect a number of responses to one question and generate a ranked list. The responses to this question are presented below.

The focus group took place in a private office on the school site. A subsample of eight of the year 12 students who had taken part in the mentor training were randomly selected by the link teacher

to take part in the group. The group consisted of five males and three females, all aged between sixteen and seventeen years old.

The format of the group was clearly explained to the group and any questions were answered by the researcher. It was emphasised that participation in the group was not compulsory and that they could leave the room at any time. All students in attendance had previously signed a consent form to say they were happy to have their voices recorded as part of the focus group; however, this was clarified with the group and it was made clear that this consent could be withdrawn by them at any time. All students agreed to continue with the group and none of them withdrew their consent.

The group members were asked not to communicate with each other during the group, and not to react to other people's responses. This was in order to minimise the effect of any peer pressure or social biases. The participants were given around fifteen minutes to generate a list of responses to this question. At the end of this period, the researcher asked each student to share one of their answers, before moving on to the next student. This continued around the group until all responses had been given. If a point was unclear, the researcher would clarify and discuss the answer with the student before writing it down in order to ensure their intended answer was recorded accurately. Where two answers were similar to each other, a group discussion was held over whether the two could be combined. Through this process, a total of ten different responses were generated by the group. Due to the time constraints on the day of the focus group, it was not possible to conduct the free discussion element of the focus group session. Therefore, the results presented below represent the ideas generated by the individuals in the group and the group's subsequent ranking of their pertinence to the research question.

### *Findings*

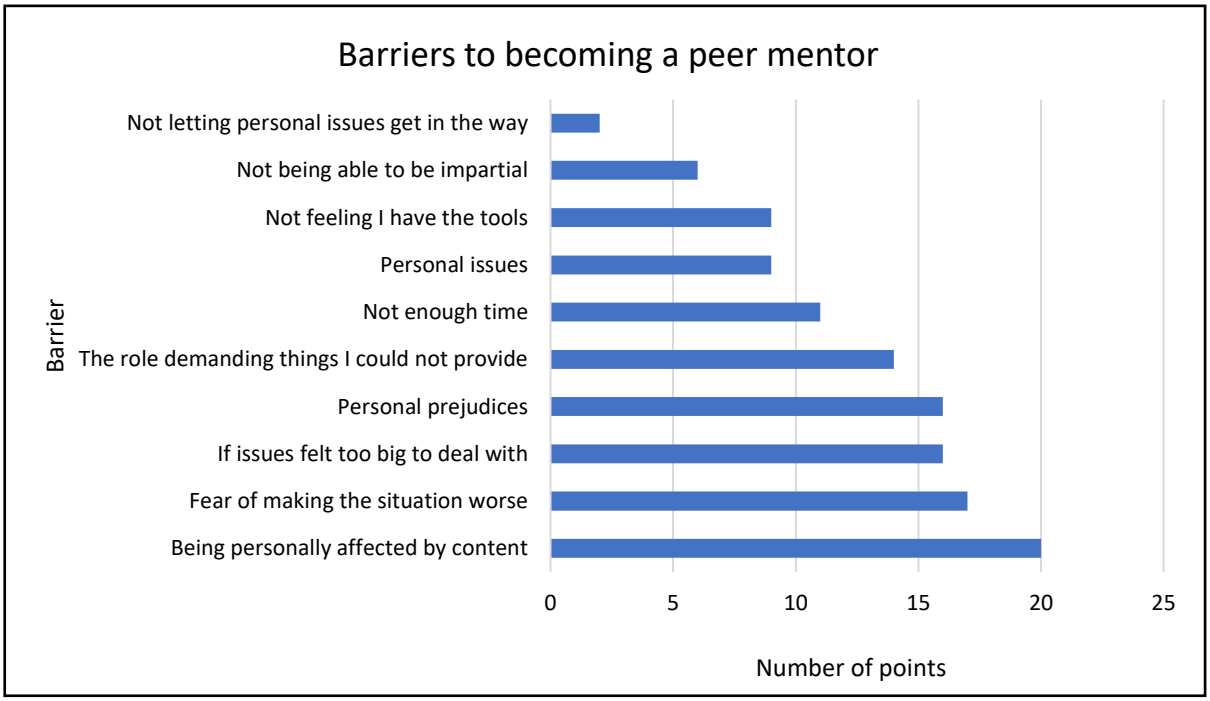
At the start of the group, participants were asked: 'What would prevent you becoming a peer mentor?' Table 6 shows the responses given and the number of points assigned to each by the group.

Three themes were identified from these responses: 1) feeling unprepared for the role, 2) the relationship between the role and personal life, and 3) personal prejudices interfering with neutrality.

The majority of the items on the final list related to the first theme: a sense of not feeling prepared for the role. These ranged from a fear of making the situation worse to not feeling that they have the tools. This highlights the importance of effective training programs, in order to equip students with the necessary tools and ensure they feel confident enough to use them. This data is potentially useful information for consideration in the development of mentor training programs, as it highlights the areas in which student mentors may lack confidence or skills.

The second theme related to the relationship between the demands of the role and the mentor's personal life. The item identified as the biggest barrier to becoming a peer mentor was the potential to be personally affected by what they are hearing. This suggests an apprehension about the nature of the issues they will face and highlights the importance of supervision and continued support for peer mentors in their role.

*Table 5 Responses to NGT question and points awarded by focus group. Points were awarded to the items that students felt best answered the research question*



The wider evidence around peer support shows the importance of structured supervision (Coleman, Sykes and Groom, 2017), however there is a lack of clarity over the most effective way to provide this.

The remaining points were given much lower rankings by the group, but pertained largely to personal issues interfering with their capability to provide support. An interesting point that was raised by the group was a concern that mentor impartiality would be compromised by any existing relationship dynamics between them and their mentee. This could also work conversely, in that any information shared in a mentoring session may affect the mentor or mentee's relationship with a member of the school. This may support the argument for mentor-mentee partnerships being across year groups in an effort to avoid this phenomenon, which is the case in most peer-led programs.

A smaller yet notable theme that arose was a fear of personal prejudices interfering with their ability to support their peers. Though this was only raised in one item, it was ranked as the third most significant barrier to becoming a peer mentor. This was a surprisingly reflective concern from the volunteers, and many were in agreement that this was a concern of theirs. Education about common mental health conditions may therefore be an important element of any future training plans, as well as the provision of an open forum where any pre-conceptions can be discussed.

## Attrition/retention

Out of 18 participants who completed the training, all completed the pre-test assessment and 15 filled out the post-test survey. However, only 5 out of 18 participants completed the follow-up assessments, which is a 27.8% completion rate. This represents a substantial attrition rate and affects the quality of long-term data. In terms of evaluating the feasibility of our data collection methods, which was the aim of this project, there was clearly a flaw in the way in which we approached the follow-up process. In this study, the follow-up surveys were e-mailed to the students' school e-mail addresses exactly six weeks after the training took place. Due to unforeseen delays in the initial delivery of the training, the follow-up date came one day before the school broke up for the summer holiday. This meant that they were given very little time to complete the

surveys. The research team contacted the pastoral lead, who by this time had become the acting head of the school, to request that a reminder be sent to participating students. However, a more effective method may have been to re-visit the school in order to conduct a data collection session in a classroom setting. This is something that should be taken into consideration should this study be conducted on a larger scale.

## Discussion

This pilot study assessed the feasibility of implementing and evaluating the Friend2Friend peer mentor training tool in a secondary school. A larger study is feasible but some key changes would need to be made to the protocol. Participants seemed to find the tool acceptable and most thought it was a valuable experience. Improvements were observed in most outcomes, including confidence and preparedness to support a peer. Qualitative data analysis demonstrated that being personally affected by content was one of the biggest barriers to the students' becoming a peer mentor.

At the initial recruitment phase, we experienced some difficulty getting schools interested in taking part in the study. We contacted a number of secondary schools via e-mail, however only one agreed to take part. This meant that the initial recruitment target of three schools was not met. School interest may have been higher if we were able to offer an incentive, however this was not possible given our budgetary limitations. Visiting the schools in person may have been a more effective method of initiating interest in the study. In terms of recruiting participants, a convenience sampling method was used to recruit students who were due to start training for the school's peer support scheme. This method enabled the sample of students to be recruited faster but was prone to bias, as the selected students were likely to be more receptive to the training than a random sample. The school's pastoral lead requested the students' participation, which was also effective against time constraints but meant the sample may have been more selective and therefore less representative of the wider population. Other schools may also not have an existing support scheme from which to pool participants. No issues were encountered regarding eligibility criteria; however, a larger study would benefit from collecting more demographic data in order to determine effects to different

populations. This data would enable a more accurate assessment of the potential reach of this intervention.

The intervention appeared to be acceptable to the students, who were receptive to the training and gave it mostly very positive ratings in the evaluation. Considering the reach element of the RE-AIM model (Glasgow et al., 1999), this demonstrates the potential for implementation with this demographic. One researcher visited the school to deliver the intervention, which enabled questions to be answered about the program. This may be more difficult if an adult familiar with the program is not available, however the program appeared to be quite intuitive and most completed it without needing clarification. The student is guided through the intervention by the program, which decreases the opportunity to deviate from the format and therefore increases the chance of implementation fidelity. The intervention is relatively resource-light and therefore scalable, only requiring one computer and a set of headphones per student. However, a lack of this equipment may impose restrictions on how many mentors a school can train at once. The intervention is one-off and quick to deliver, taking only around 25 minutes in total. This may make the training more appealing and easier for people to commit to, as well as making the delivery more feasible in a time-constrained school setting. However, despite a range of positive results at post-test, some positive effects were seen to diminish considerably at follow-up. This reduced effect over time may be a disadvantage of the intervention's brevity. With regards to the content of the training, our data analysis highlighted a view that some of the information and skills covered in the simulation were already known. Some saw this as validation of their existing practices, whereas others felt the training was not adding anything new to their skillset. The simulation element was well-received, although some felt it would have been valuable to have more than one scenario.

We encountered a number of issues at the evaluation stage. There was a high attrition rate at follow-up, with only five of the 18 participants completing the final assessment. The reasons for this are unclear, however it would likely be more effective for the session to be conducted with a researcher present, rather than the assessments being sent to their school e-mail addresses. We also encountered some issues with scheduling. The study took place during the school's exam period,

which meant there were delays at certain time points. The school's pastoral lead, and link teacher for the study, also changed roles during the study, which meant they were less available to contact. Our focus group was also cut short due to time restrictions imposed by the school on the day. The risk of this could be reduced in a larger study by conducting the group outside of school hours. The Nominal Group Technique itself was quite time-consuming, so this may not be an optimal method given the potential time constraints in a school environment. However, these groups are quite simple to conduct and require minimal training of the facilitator. The school's pastoral lead chose the sub-sample for this group, which was quick to organise as a result. The students also engaged well with the format and gave informed and detailed responses. The quantitative measure that we used was potentially problematic as it is not a validated measure. As part of a larger study, it may be valuable to introduce a wider range of measures that have been validated with this age group. Based on the outcomes of our qualitative data, topics such as school connectedness, benefits of peer support and training needs may be useful to explore further.

The results of both quantitative and qualitative evaluations were largely positive and suggest that this intervention could be an effective component of a peer mentor training program. Immediate improvements were observed in the preparedness to support a peer; however, these were seen to reduce over time. This increase at post-test is promising, given that our focus group data found a lack of preparedness to be a key barrier to becoming a peer supporter, however further exploration is needed into the reduced effects over time. The levels of confidence that the mentors had to support a peer increased immediately as well as over time. Self-confidence was also highlighted as a sub-theme in our qualitative data. Awareness of signs of stress in themselves and others also increased over time. The focus group participants highlighted a number of barriers to becoming a peer mentor. A lack of preparedness was a major theme, which highlights the need for effective, evidence-based training programs. There was also a concern about the role affecting their personal lives too greatly, as well as a fear that their personal prejudices about mental health would interfere with their ability to fulfil the role. These suggest the importance of supervision and support for the

mentors, as well as the opportunity to challenge any preconceptions and increase their awareness of common mental health issues.

The Friend2Friend intervention showed some positive results but follow-up results raise concerns about its long-term effectiveness. Part of the intervention's appeal is its brevity and simplicity, however this may limit its potential for change over time. The participants commented that they would like more scenarios to work through, which may be a useful addition to the program. Further research is needed to explore whether this intervention might be more effective as either a longer program, or as one element of a larger training program. However, this raises issues of maintenance as making the training longer would increase the need for resources and may make it more difficult for schools to implement.

In summary, many aspects of this study were feasible however some alterations would be necessary in a larger scale study. Issues with feasibility included the recruitment of schools and retention of participants over time, both of which have been addressed in the text. The Friend2Friend intervention itself is low-resource and was accepted by the students, which means it has the potential to be an effective tool in this setting. Having shown some effectiveness on a small scale, the scalability of this intervention must now be examined in order to determine its efficacy potential on a larger scale. The results suggest that taking part in this training can have immediate improvements on students' confidence and preparedness to support a peer with mental health issues, however some improvements had large reductions over time. Any conclusions about long-term effects are tentative in the context of poor follow-up rates. These outcomes will also need to be measured with a larger sample in order to establish more conclusive results.

## Limitations

This study had several limitations. First, the study did not meet its initial recruitment target of 40 participants. This was due to only one school expressing interest in the study. However, the research team deemed the final sample of 18 to be of sufficient size for a pilot study. These students were recruited using a convenience sampling method as they were part of a group that had already

volunteered for the school's peer mentor scheme. They may have therefore been more receptive to the training and the idea of becoming a peer mentor. Furthermore, the participants attended a fee-paying school, which is not a fully representative subsample of the wider population.

Second, the focus group was conducted later than planned due to a conflict with the school's exam period and the link teacher changing roles during the trial period. Although there is no golden rule for when focus groups should take place, it ideally would have been conducted sooner in order to minimise recall bias. In terms of feasibility, these issues highlight the potential delays when working with a school and that conducting elements of the study at ideal time points may not always be possible. The focus group itself was also cut short due to time restraints imposed by the school, which meant that data collection was limited. If this study were to be repeated on a larger scale, it may be useful to conduct the groups outside of school hours in order to minimise the risk of this problem arising.

Lastly, the poor follow-up rate made it difficult to accurately determine the effects of the intervention over time. Positive results seen in post-test analysis may be subject to 'post-group euphoria' (Marsh, Richards, & Barnes, 1986), which can influence results when taken immediately after an intervention. For this reason, follow-ups are important in order to test whether initial results have held up (Ellis, 2009). Some unexpected delays caused the follow-up date to fall one day before the school holidays, so collection was somewhat rushed. The attrition rate may have been reduced by a researcher re-visiting the school to conduct the follow-up assessments in person.

# Chapter 4: Discussion

## Introduction

The purpose of this thesis was to evaluate the mental health and wellbeing outcomes of delivering peer-led interventions to young people in primary and secondary schools.

The most recent prevalence statistics suggest that over 60% of schools in England operate some kind of peer-led intervention (Houlston, 2009), however there has been no attempt to comprehensively evaluate the effects these have on the mental health of the young people involved. Therefore, a systematic review was conducted in order to address this deficit. The review found a paucity of robust evidence and lays out recommendations for future research. Some benefits were found for both mentors and mentees, however the current evidence base is insufficient to conclude that student peer-led interventions in schools can benefit mentor and mentees' mental health and wellbeing.

A small-scale pilot study was also conducted in order to examine the feasibility of evaluating the Friend2Friend intervention and address the paucity of research around the most effective peer mentor training strategies. The Friend2Friend tool is a novel peer mentoring training tool for secondary school students. The study was found to be feasible with some minor amendments recommended. The students found the training acceptable and reported that they found it useful. A mixed-methods approach was used to evaluate the effects of taking part in the intervention. A range of benefits to the prospective mentors were explored and barriers to becoming a peer mentor were discussed.

## Systematic review

A large systematic review was conducted in order to collate the existing evidence of the mental health and wellbeing outcomes of peer-led interventions in primary and secondary schools. The purpose of this review was to contribute towards the global evidence base by providing an extensive analysis of the available evidence and make recommendations for further research. The results of the systematic review showed that there is currently not enough evidence to support that peer-led

interventions benefit mental health and wellbeing, so they cannot be recommended for this purpose at this stage. However, the available evidence allows for some speculation about the potential benefits or harms of these interventions.

The review identified a range of mental health and wellbeing outcomes for mentors and mentees. However, there was a lack of repeated outcomes being evaluated across studies and many outcomes were only evaluated in one study. An interesting conclusion is that some programs that are not even intended to improve mental health outcomes showed some potential to have a positive impact. It is promising to see that even programs without a mental health focus have the potential to improve psychological outcomes and the inclusion of mental health and wellbeing outcome measures in a wider variety of studies would elucidate this potential.

Improvements for mentors were only reported in two outcomes: self-esteem and self-confidence. The only significant positive effect was observed to the self-esteem of peer tutors (aged 16) who taught their younger peers (aged 13-14) twice a week (Yogev and Ronen, 1982). Another study examined self-esteem changes to adolescents after training to become sexual health and wellbeing leaders, but found no significant effect (Mason-Jones et al., 2013). It is encouraging that one study reported significant effects to self-esteem, which suggests that this could be a positive effect of peer tutoring; however, this does not provide sufficient evidence to conclude that these programs are beneficial to tutors' self-esteem. It is also noteworthy that these improvements were seen in peer tutors, who were in a principally educational role. No studies measured the self-esteem of peer supporters, however both of the studies that measured self-confidence were evaluating peer support programs (Ellis, 2004; Froh, 2004). Each reported a non-significant increase in self-confidence, with both comparing peer supporters to a comparison group. These results suggest there could be some improvement to self-confidence as a result of being a peer supporter, although the non-significant results make any hypothesis cautionary and provisional. No significant effects were observed to positive and negative affectivity in a peer support program (Bausano, 2006), or the overall mental health of peer tutors (Song et al., 2018).

A wider range of outcomes were reported for mentees, and were represented by a much larger overall sample size than mentors. Unlike with peer mentors, the one study that evaluated self-esteem found there was no significant impact on mentees (Ellis, 2009). However, the same study did find a significant effect on the self-confidence of mentees over time. Given that this is the population at which these programs are aimed, it is encouraging that there is the potential for an increase in mentee confidence. Although this is an encouraging result, it is from only one study so any conclusions must be suspended until there is further research to support it. Life Satisfaction was seen to increase during an anti-bullying peer mentoring program, where support was delivered on a one-to-one, group and drop-in basis (Roach, 2014). An interesting result from this study was that mentees who had fewer mentoring sessions recorded higher levels of life satisfaction after the program than those who had a medium or high amount, which the authors suggest may be due to the fact that those who require more frequent sessions may have a lower baseline of life satisfaction.

The handful of studies evaluating the effects of educational programs on mentees saw mixed results. Suicidal ideation among non-mentors was seen to decrease in a school where mentors spread information about suicide support, however a similar decrease was also seen in a control group without the program (Wyman et al., 2013). Following a peer education program about asthma care, overall Quality of Life improved among secondary school students reporting asthma symptoms, with male students showing a significant improvement with regards to the emotional impact of the condition (Shah et al., 2001). This program was delivered through classroom teaching. The only negative effect to either mentors or mentees was seen in a Chinese study, where adolescent tutees recorded significantly lower mental health scores following a tutoring program, with a notable increase in learning stress (Song et al., 2018). The authors attributed this in part to the students' identification as the lowest performing in their class. Lastly, Visser (2007) measured the psychological wellbeing of students used as role models in a sexual health awareness program. The study found no difference between pre-test and post-test assessments.

The way in which interventions were delivered depended largely on the program's aim. More intimate settings, such as one-to-one meetings or conversations in small groups, were more

commonly seen in programs designed to support or educate a selected group of people, such as victims of bullying or lower-achieving students. In educational programs where the goal was to spread a message throughout the school, wider-reaching methods such as lectures, role-modelling and the use of promotional material such as leaflets and posters were generally the preferred choice. These delivery methods largely suit their aim,

The duration of programs in the included studies varies from around 12 weeks to around one year, although a number of studies make no mention of duration. The frequency of meetings was typically once per week. The evidence base may benefit from an evaluation of dose-response, i.e. the relationship between number of peer mentoring sessions and size of effect. There is little discussion about dose-response in our included studies and little justification for length or intensity of programs. However, given how widely these programs and the needs of its users vary, the dose-response would be likely to vary widely too and so estimating this may be difficult. An unexpected result in one study (Roach, 2014) found that adolescents who had *fewer* mentoring sessions reported a higher quality of life than those who had more, although this may be due to the fact that those in need of more sessions may have had lower baseline scores (Roach, 2014).

There is a notable lack of standardised implementation procedures in the literature and poor evidence to support implementation choices. Few studies provided rationale for peer selection criteria or training methods and there is little evidence with which to justify implementation decisions. Therefore, a more robust evidence base must be developed in order to inform practice. However, a non-standardised approach may be more effective in this context. For instance, having flexibility over selection criteria means they can be altered depending on the type of program you want to implement. It might make more sense to choose students who are better academically as peer educators, as they would be more likely to understand and process the information. Contrarily, these may not be as suitable qualities for a peer supporter, who may need to be empathic and trusted by other students.

We encountered a paucity of discussion about what defines a ‘peer’ in the school context. Beyond age, few qualifying factors were explored. The implications of this are that mentor-mentee pairings

may not be optimal and that some students with the potential to be good mentors are looked over. This requires further qualitative data to explore who young people view as their peers, and whether a non-friend of their own age is actually preferable to a friend when seeking support. Indeed, some studies have reported poor program usage because potential users preferred the help of a friend to a peer supporter (Boulton, 2006). However, peer support programs may be a useful resource for those who do not have a natural peer support network or who don't feel comfortable discussing personal issues with friends. Having the opportunity to change mentors would also likely be a valuable element, as certain pairings may work better than others. Future exploration into which mentor-mentee pairings are most effective is warranted, along with comparative research of the effectiveness of mentor qualities. In order to address this, we developed and presented a diagram (Figure 3) to show the most common peer mentor selection criteria as observed in the included studies. However, this only represented frequency so future research should look at the effectiveness of these criteria.

There were a number of limitations to this review. First, the definitions of mental health and wellbeing outcomes may have varied from those of other researchers or practitioners. However, selections were based on researcher judgment and validated diagnostic assessment tools were used for clarification when necessary. Second, there were some deviations from the review protocol, however these were justified within the text. Third, some systematic reviews only include randomised controlled trials as these are considered to be the 'gold standard' research design. However, we also included other designs which may be deemed lower quality in order to give a broader overview of the evidence base.

Overall, there is some initial evidence that being a peer leader can have a positive effect on self-esteem and self-confidence. These improvements have been seen after programs intended to provide both support and education. Further research is needed to support these preliminary findings. There are also some promising potential benefits to being a mentee or user of a peer-led intervention. Self-confidence has been seen to increase, though further research is needed before

this can be confidently concluded. Broader benefits such as life satisfaction and quality of life have also shown improvements.

## Pilot study

We conducted a small-scale pilot study of an online, peer mentor training tool. The training was delivered to 18 sixth-form students over a 30 minute period on school computers. Quantitative data was collected at pre-test, post-test and follow-up. Qualitative data was collected using open-ended questions and a focus group three weeks after the intervention. The intervention was considered in the context of the RE-AIM framework, which prioritises implementation decisions at the point of evaluation. The aims of the study were to evaluate the following:

1. Feasibility of conducting this study on a larger scale
2. Acceptability of the Friend2Friend intervention among 16 and 17 year old potential peer mentors
3. Effects of delivering the Friend2Friend training program to secondary school students

We found many elements of the study to be feasible but some alterations may need to be made in a larger study. The Friend2Friend study was largely accepted by the students and showed some promising initial results. In total, 93% of the participants who completed the post-test assessment said they would recommend the Friend2Friend to a friend and most rated the course as good or very good. The majority of the students also felt that the course was useful, well-constructed and easy to use.

Many elements of the pilot study were feasible and effective. The intervention was simple to deliver and required few resources – namely, one computer and a set of headphones per student. This increases its potential for scalability, which is a valuable attribute for a school-based intervention as school sizes and needs vary. The content of the intervention was received positively by the students and most rated the experience as excellent. A particular focus of the positive feedback was the simulation element of the program. Many peer mentoring programs identified in the systematic review and elsewhere use interactive teaching methods, such as roleplay, however the integration

of this element into a gamified format offers a safe space to practice individually and the scenario was found to be relatable. The scenario was also found to be relatable, although a criticism was that more simulations would have been useful. The sampling of individual students was effective but prone to bias, as they were a convenience sample of students who had already expressed an interest in being a peer mentor. A randomly selected sample of students would have improved the generalisability of the results.

Some amendments would be necessary if this pilot study were repeated on a larger scale. First, the recruitment target set out in the protocol (40 students, 3 schools) was not met. This slightly larger sample and more varied representation of schools would have made the results more generalisable. However, this was a pilot study and the intention was not to reach a powered sample, whereas a larger study evaluating the effectiveness of the intervention would need a much larger sample to achieve this. The method used to recruit schools was flawed by the lack of a systematic approach: a larger study may benefit from establishing contact with a greater number of schools and conducting follow-up calls to maximise participation numbers. Second, the data collection process could be improved in several ways. Only 28% of participants returned completed quantitative follow-up questionnaires, which meant that the reliability of these results is compromised. This may have been due to the method of data collection, as surveys were sent to the students' e-mails. Delays in delivering the initial intervention, caused partly by the link teacher changing roles, also meant this took place one day before the summer holidays. This may also represent a waning interest in the study over time. The focus group was also limited by time constraints so it was not possible to complete the full Nominal Group Technique process and only one question could be asked. With more time this was likely to have been a very effective process, as the results collected in the short amount of time available were interesting and the students engaged well with the process.

Some of the students felt that the training needed to be longer. This could be addressed by adding further simulations to the program, which some students suggested would have been useful. Alternatively, there may be scope to repeat the training at certain intervals in order to refresh the

students' learning. A third alternative would be to integrate the simulation element into a larger training program, as this seemed to be a valued and effective element to the Friend2Friend program.

## Outcomes for trainees

A range of outcomes were measured using quantitative data collection and analysis. The results were largely positive for preparedness, confidence, likelihood of helping others, and likelihood of seeking help.

Quantitative evaluations showed improvements to students' sense of preparedness to support a friend showing signs of stress. This is particularly encouraging in light of the results of the focus group, where students reported that feeling unequipped for the role would be a barrier to becoming a peer supporter. However, most of these improvements were not maintained over time. The reasons for this are unclear and would require further evaluation – however, the poor follow-up rate means these results are unreliable. One area that continued to improve over time was preparedness to help a friend thinking about suicide to find adult support, which is an encouraging finding. All items relating to confidence levels increased at post-test and follow-up, which suggests that the content of the Friend2Friend was effective at making the students feel equipped. However, it would have been more valuable to compare Friend2Friend to a control group with a different training program to see if these changes would also occur after other types of training. The extent to which the students believed it is their role to connect 'stressed out friends' to adult support increased over time, which suggests an awareness both of their role as a support system as well as the necessity of adult support.

Qualitative data collected through open-ended questions and a focus group provided valuable phenomenological data. The focus group participants felt positive about becoming a peer mentor and felt that it would generate opportunities for them to support others and develop themselves, both emotionally and through the acquisition of basic counselling skills. They also felt that being a mentor would increase their feeling of connectedness to others in the schools, which has been found elsewhere in the literature (Gregoric & Owens, 2008; Zachariah, de Wit, Bahirat, Bunders-Aelen,

& Regeer, 2018). Given wider knowledge of the importance of peer connections at this age (Blakemore and Robbins, 2012), this represents an encouraging outcome.

None of the participants had experience of peer mentoring, so a sub-sample was asked about barriers to becoming a peer mentor. It is useful to understand barriers to becoming peer mentors as this is an underdeveloped field and it is important to understand where training and delivery of programs can improve. Given that our systematic review found that training programs are largely unstandardized, understanding these barriers could inform practice when designing programs. A list of ten barriers was generated, with three overall themes: feeling unprepared for the role; effect of the role on personal life; and a fear of personal prejudices obstructing neutrality. These themes encapsulate and reinforce two key aspects of a peer mentoring program: training and supervision (Coleman, Sykes and Groom, 2017). This is particularly pertinent given the students' reports that 'being personally affected by content' would be the biggest barrier for them to become a mentor, which is quite a novel finding as few studies have explored peer mentors' fears about the role. While this finding reinforces the need for effective mentor supervision, it also raises a question about what problems peer mentors should be asked to support. Given the potential vulnerability of this age and their non-professional status, there might be a risk to peer mentors' own mental wellbeing if faced with traumatic or triggering situations. Although these risks may be mitigated somewhat by appropriate training and supervision, these tasks carry implementation challenges as they are most likely to fall to school staff (Visser, 2004), who must be willing, able and appropriately trained to do so. Future research should address teachers' perceptions of their role in a school-based peer-led intervention, as their involvement appears to be a crucial element.

## Implementation in schools

For evidence to be translated into practice, research must be used to inform implementation strategies. An increased focus on implementation science seeks to ensure research is conducted with implementation strategies in mind, such as the Consolidated Framework for Implementation Research (CFIR) (Keith, Crosson, O'Malley, Cromp, & Taylor, 2017) and RE-AIM (Glasgow, Vogt, & Boles, 1999). Given the limited discussion around implementation in the peer intervention

literature, a recommendation of this thesis is that future research prioritises implementation strategies using validated frameworks.

The CFIR framework identifies two elements to an intervention: those that are 'core components', i.e. constant, and 'adaptable periphery', i.e. changeable. This idea was developed into an embroidery metaphor by Crane et al. (2017) who described the core and adaptable components of mindfulness-based programs (MBPs) as 'warp' (stationary yarn used as support) and 'weft' (woven around the warp). Within the metaphor, the 'warp' represents constant and crucial components to classify an intervention as an MBP, while the 'weft' signifies more flexible elements that can be adapted to individual contexts. This may also be an effective framework by which to harness the natural and necessary flexibility of peer support programs.

Peer support programs in schools have been shown to change and develop over time, adapting to the school's needs and resources (Cowie, 2002). In Cowie (2002), while certain elements had changed after 2 years, e.g. how the service was accessed and delivery strategies, the program remained peer-led and continued to provide support for students. This flexibility has been shown to be effective in other studies (Visser, 2007; Wyman et al., 2010), where organisers provided schools with core modules but gave them free rein to deliver the courses as their needs allowed.

With this in mind, the findings of this thesis can be used to establish the 'warp' and 'weft' of peer-led programs, in order to: 1) distinguish a peer-led program from other programs, and 2) identify those elements that are necessary and those that can be manipulated. The core and adaptable elements could be considered as follows:

*Figure 5 'Warp' and 'weft' elements of peer-led interventions*

| *Warp (Core elements)* | *Weft (Adaptable periphery)* |
|---|---|
| Mentors are selected | Selected by peers or school staff, or both<br>Self-volunteered |
| Mentors are trained | How training is delivered, by whom, for how long |
| Students as peer mentors | Which students are chosen as peers |
| Delivered to other students | How programs are delivered<br>Which students program is aimed at |
| Mentor supervision | How students are supervised, by whom, with what intensity |

**Adapted from Crane et al. (2017)**

In reference to Figure 5, the elements that must be present are that mentors must first be selected and trained, that these mentors are students, that the programme is delivered to other students, and that the mentors are supervised. These core elements identify an intervention as a peer-led intervention and each can then be carried out in the most suitable way for each individual school, as the needs and resources of each institution are likely to vary widely.

However, this presents a problem for research. Although the ability to tailor individual programs is useful in practical terms, this amounts to a lack of replication of programs which makes it difficult to establish an evidence base. This was a crucial finding in the systematic review conducted for this thesis and will need to be addressed by replicating programs and evaluating the same outcomes.

With regards to implementation barriers, some studies have found that teacher support is a major barrier to the implementation of school-based programs (Forman et al., 2009). The importance of teacher involvement was encountered in the pilot study in chapter 3, as the link teacher changed roles during the study, which demanded more of their time and thus caused delays to the study. This unpredictability of school events and the demand on teachers' time could present an issue if they are counted on to oversee a program, so involving multiple staff members is recommended (Forman et al., 2009).

## Implications for practice

The findings from within this thesis have raised a number of implications for practice. A number of considerations must be made both to the implementation of the program and the individuals taking part.

In terms of the students who use the program, whether as a mentor or mentee, there are a number of potential risks to consider, particularly with programs designed to provide emotional support. For mentees, these range from social risks, such as feeling ostracised, unsupported or being made to feel worse by their mentor, to private information being shared with others, which raises ethical considerations over confidentiality. For mentors, they may be at risk of feeling personally affected by the information shared with them, or may feel unequipped for the role. These mentor risks were highlighted by a number of participants within the pilot study undertaken for this thesis. This opens up the discussion about the importance of supervision of mentors and monitoring of the program, as well training and knowledge of when, where and how to refer for adult support; however, the responsibility of providing these measures is likely to fall to the involved school who may find this difficult in the context of pre-existing restraints on time and resources. School staff may also lack willingness or training to fulfil these roles. This raises an important issue about the feasibility of conducting peer support programs for mental health safely in a school environment, in the absence of a robust evidence base. These issues must be carefully considered in the implementation stage of a program to ensure necessary safeguarding procedures are established. A further considerable risk is that the program will simply not be effective support for mental health, as was highlighted above in the context of the systematic review conducted in this thesis.

With regards to implementation, a range of considerations require further exploration. Some studies have found poor usage rates, due to students not knowing what the program was for (Boulton, 2014), not thinking it would be helpful (Cowie, 2002) and, perhaps most significantly, preferring to reach out to friends than to peer supporters (Naylor and Cowie, 1999). If young people are more likely to turn to a friend than simply any peer their age, it may be a more effective response to offer universal mentoring training to all students so they have basic support skills, rather than relying solely on designated peer mentors. However, having a set program may be very valuable for those

students who do not have a naturally occurring social support system. This phenomenon of relying more on friends may affect how widely these programs are actually used. Indeed, whereas prevalence statistics for these programs are available (Houlston, 2009), rates of usage are not fully known and are difficult to detect. However, it is obvious that not every student would have a need for peer support, and not all of those who do would necessarily choose peer support as a support system.

Some programs have found issues with longevity and sustainability (Coleman, Sykes and Groom, 2017). Naylor and Cowie (1999) suggest that the program must be assimilated into the school's culture in order to survive and be effective, which is echoed by Visser (2004). This involves a whole-school approach to delivering and upholding the intervention (Forman et al., 2009). Levine (1992) dictates that three stages are necessary for a program to be integrated into an institution's culture: initiation, implementation, and institutionalization. The last stage of becoming part of the institution appears to encounter obstacles in the school setting, including: low school interest, low pupil interest, school culture, effectiveness of the program and pupil awareness of the program. A number of studies experienced the latter as a key reason for poor usage, which suggests better publicization of their programs was needed (Cowie, 2008).

## Conclusion

In summary, peer-led interventions are a promising approach to addressing youth mental health issues in schools. However, the growth of these programs appears to be ahead of the evidence base, which is limited in both quantity and quality. In response, this thesis has highlighted a range of key areas for future research to address. Some wide gaps exist in the implementation research and this text has attempted to guide future evaluations, as there is currently a very weak evidence base with which to justify implementation decisions. This thesis has addressed this gap with an evaluation of a mentor training program, which added an important youth perspective. This work also entails an evaluation of the global evidence base around peer-led interventions in schools, which demonstrates the need for greater replication of existing results. The results of this thesis are relevant to stakeholders involved in the development and implementation of peer-led interventions in school

settings. An interesting conclusion of this thesis is that peer-led interventions are used to address a number of issues within schools but a range have observed mental health benefits, suggesting these outcomes are not reserved only for those programs that target them.

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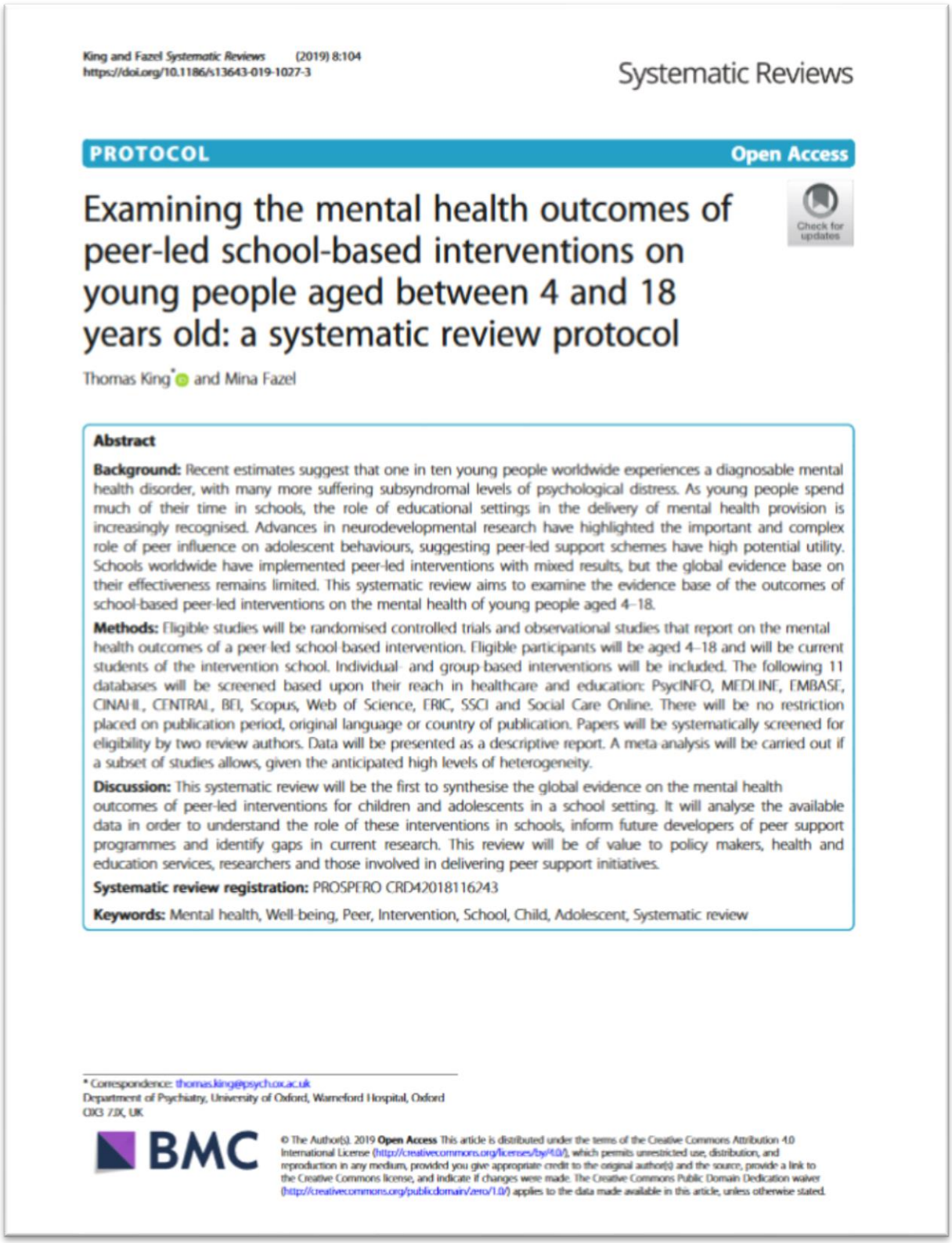
# Appendix I – Image of published systematic review protocol



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Systematic Reviews

PROTOCOL Open Access

Examining the mental health outcomes of peer-led school-based interventions on young people aged between 4 and 18 years old: a systematic review protocol

Thomas King* and Mina Fazel

**Abstract**

**Background:** Recent estimates suggest that one in ten young people worldwide experiences a diagnosable mental health disorder, with many more suffering subsyndromal levels of psychological distress. As young people spend much of their time in schools, the role of educational settings in the delivery of mental health provision is increasingly recognised. Advances in neurodevelopmental research have highlighted the important and complex role of peer influence on adolescent behaviours, suggesting peer-led support schemes have high potential utility. Schools worldwide have implemented peer-led interventions with mixed results, but the global evidence base on their effectiveness remains limited. This systematic review aims to examine the evidence base of the outcomes of school-based peer-led interventions on the mental health of young people aged 4–18.

**Methods:** Eligible studies will be randomised controlled trials and observational studies that report on the mental health outcomes of a peer led school based intervention. Eligible participants will be aged 4–18 and will be current students of the intervention school. Individual- and group-based interventions will be included. The following 11 databases will be screened based upon their reach in healthcare and education: PsycINFO, MEDLINE, EMBASE, CINAHL, CENTRAL, BEI, Scopus, Web of Science, ERIC, SSCI and Social Care Online. There will be no restriction placed on publication period, original language or country of publication. Papers will be systematically screened for eligibility by two review authors. Data will be presented as a descriptive report. A meta-analysis will be carried out if a subset of studies allows, given the anticipated high levels of heterogeneity.

**Discussion:** This systematic review will be the first to synthesise the global evidence on the mental health outcomes of peer-led interventions for children and adolescents in a school setting. It will analyse the available data in order to understand the role of these interventions in schools, inform future developers of peer support programmes and identify gaps in current research. This review will be of value to policy makers, health and education services, researchers and those involved in delivering peer support initiatives.

**Systematic review registration:** PROSPERO CRD42018116743

**Keywords:** Mental health, Well-being, Peer, Intervention, School, Child, Adolescent, Systematic review

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# Appendix II – Example search – PsycINFO

| | |
|---|---|
| **1** | exp mental health/ or psychological well-being/ |
| **2** | exp child psychiatry/ or exp child psychology/ |
| **3** | exp mental disease/ or anxiety disorder/ or autism/ or emotional disorder/ or mental instability/ or mood disorder/ or personality disorder/ or psychosis/ or thought disorder/ or exp mental disease assessment/ |
| **4** | (Mental Health or Psych* or Wellbeing or Well-being or Mental Disorder* or Mental Illness or Psychological Issue* or Emotional Wellbeing or Bully* or Psychiatric Disorder* or Marginalised Group* or Substance Misuse or Substance Abuse or Addict* or Drug Abuse or Drug Misuse or Alcohol Abuse or Alcohol Misuse or Aggress* or Suicid*5 or Suicidal Ideation or Self Harm or Self-Harm or Self Destructive Behaviour or Self-Destructive Behaviour or Self-Injurious Behaviour or Self Injurious Behaviour or Non-Suicidal Self-Injury or Non Suicidal Self Injury or Self-Inflicted Wound* or Self Inflicted Wound* or Self Mutilation or Self-Mutilation or Self Poisoning or Self-Poisoning or Attempted Suicide or Trauma* or Depress* or Anxi* or Low Mood or Eating Disorder or School Transition or LGBTQ*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] |
| **5** | 1 or 2 or 3 or 4 |
| **6** | exp peer counseling/ or exp peer group/ |
| **7** | exp friend/ |
| **8** | student/ or elementary student/ or high school student/ or middle school student/ |
| **9** | exp friendship/ |
| **10** | (Peer Support or Peer Buddying or Peer Counsel* or Peer Intervention* or Peer Listening or Befriending or Peer* or Peer Relation* or Friend* or Peer |

| | |
|---|---|
| | Support Group* or Peer-led or Cross-age or Cross age or Peer to Peer or Peer-to-Peer or Paraprofessional or Para-professional or Peer-delivered or Peer Delivered or Peer Education).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] |
| **11** | 6 or 7 or 8 or 9 or 10 |
| **12** | exp school/ or high school/ or kindergarten/ or middle school/ or primary school/ |
| **13** | education/ or education program/ or health education/ or interdisciplinary education/ or learning environment/ or mentoring/ or "outcome of education"/ or school attendance/ or student retention/ |
| **14** | exp mentor/ |
| **15** | (School* or Primary School* or Secondary School* or Educational Setting* or College* or Sixth Form* or Elementary School* or High School* or Junior School* or Special Education*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] |
| **16** | 12 or 13 or 14 or 15 |
| **17** | exp school health service/ |
| **18** | exp intervention study/ |
| **19** | (Intervention or Train* or Program* or School Based Intervention* or Group Intervention* or Scheme* or Initiative* or Approach*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] |
| **20** | 16 or 17 or 18 |
| **21** | 5 and 11 and 16 and 20 |
| **22** | limit 21 to (human and (preschool child <1 to 6 years> or school child <7 to 12 years> or adolescent <13 to 17 years>)) |

# Appendix III – School recruitment letter

**Example recruitment letter to school**

Dear [X school],

I am writing to enquire about conducting some research in your school between March and May this year. I am a Master's (Research) student at the University of Oxford, supervised by Dr. Mina Fazel and Professor Harry Daniels. Professor Daniels advised me that he has worked with you in the past and that you may be interested in taking part in this study.

My current research is looking into the mental health effects of peer-to-peer interventions in schools. This includes looking at school-based programs such as peer supporting, peer counseling, befriending and others. The study I am proposing will involve the testing and evaluation of an online peer mentor training tool called 'Friend2Friend'. The idea of the training is to teach basic listening skills to adolescents in schools, with the hope that they will feel more confident in reflecting on their own mental health and supporting other students their age with mental health-related needs. The training will be delivered to all volunteers in one group and will last around half an hour, plus a quick survey before and after completion. I am ideally looking for around 20 year 12-13 students (minimum age 16) to take part in the study if possible.

The commitment from the school would be to allow me to come in for around an hour to conduct the training over one lunch break (preferably in a computer room), then twice more around 2 and 6 weeks later to conduct follow-up feedback groups with those who participated. These groups would last around 1 hour each, with 8 people per group. The groups will involve individuals writing down answers to several questions and then taking part in an audio recorded discussion. Specific consent will be sought from each volunteer to be audio-recorded. All procedures will be clearly explained to all participants and any data collected will be confidential and stored securely.

By participating in the research, your school would be one of the first to pilot this intervention in the UK. Your involvement would allow us to better understand the feasibility of using this training tool in the school context and how it may help young students become more aware of mental health signs and symptoms.

Oxford University has strict ethical procedures on conducting ethical research with teachers and young people, consistent with current British Educational Research Association guidelines. Before beginning the research, I would inform parents and guardians about the research and offer the students, parents and guardians the opportunity to refuse to participate. Throughout the research, students, parents and guardians will be able to refuse to participate at any time. I have a valid DBS check which allows me to conduct research with this age group in a school setting.

All participants, including students, teachers and the school, would be made anonymous in all research reports. The data collected would be kept strictly confidential, available only to my supervisors and myself, and not used other than specified without the further consent of all involved being obtained. All tapes would be destroyed at the end of the research period, and kept in locked conditions until then. The results of the study would be written up and submitted as part of my Master's thesis, as well as to an academic journal for potential publication.

If you feel you would like to take part in the study, or need more information about what is involved, please do not hesitate to contact me.

# Appendix IV – Participant Information Sheet

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## A pilot study of the Friend2Friend online training tool

### INFORMATION SHEET FOR YOUNG PEOPLE AGED 16 TO 18 YEARS

We are inviting you to join in a research study. Our names are Tom King and Mina Fazel and we work at the University of Oxford in the Department of Psychiatry.

Before you decide if you would like to join in, it's important to understand what the study is about, why we're doing it and what it would involve for you. Please read and think about this leaflet carefully. Please feel free to talk to your family, friends, or the researchers about it if you want.

If anything isn't clear or you have more questions you can ask your parents/carer to give us a call and we can discuss it with you and your parents/carer.

### Why are we doing this research?

We are doing this research to see if the online Friend2Friend mentor training program is useful for students. We will be looking at how well this program can be used to prepare school students to be able to support their peers with emotional difficulties.

### Why have I been invited to take part?

We are inviting you to take part because you are at least 16 years old and in year 12 or 13. We are inviting around 40 young people within this age group to take part.

### Do I have to take part?

No - It is up to you. We will ask you to sign a form to say that you agree to take part (a consent form). We will give you a copy of this information sheet and your signed form to keep. You are free to stop taking part at any time during the research without giving a reason, by telling the researcher. If you decide to stop, we will use the information we have already collected from you, unless you would like us to also remove this.

## What will happen to me if I take part?

Upon arrival, we will talk you through the study procedures and give you the chance to ask any questions.

You will then be asked to sign a consent form, which means that you are agreeing to take part in the study.

On the day of the intervention, all volunteers will be asked to come to one of your school's computer rooms during a lunch break. I will be there to meet all volunteers and will be available to answer any further questions you may have.

You will first be asked to complete a short pre-study survey online, which will ask you questions about the idea of 'peer support' and how you would feel about supporting a friend who was experiencing some emotional difficulty.

You will then be asked to complete the training session on your computer, which will last around 30 minutes. You will be logged on to a website where the training will take place. The aim of the training is to teach you some basic listening skills that would help you to support a peer who is experiencing emotional difficulty. The training involves a digital 'friend' opening up to you about some emotional difficulties she is experiencing. You will then be given a selection of responses to choose from in reply. This 'friend' will then react in a certain way depending upon the nature of your response. You will also receive feedback on the kind of responses you choose to give and may be given some alternatives. The aim of this training is to give you a safe space in which to learn how to navigate these difficult conversations, so all feedback is very constructive.

Once you have completed the training, we will ask you to complete a second survey about your perceptions of the training and on the concept of 'peer mentoring' in general, e.g. whether you feel more confident after completing the training. We do this to measure any differences in your answers as a result of completing the training. This will be given to you on paper.

Additionally, we would like to visit your school again to conduct some group feedback discussions. These focus group sessions will take place soon after the training session, though the exact day will be confirmed at a later date. These will be very informal and are designed to allow you to give honest feedback about your experiences. Each group session will last around 1 hour and will have around 8 people per group. We will ask you several questions and request that you write down your answers on a piece of paper. We will then share these answers with the group. You will then be asked to rank these answers on your own. We will combine all rankings until we have some answers that we have all agreed are the most important. I will then ask the group to discuss their experiences in more detail, in discussion form. This part will be audio-recorded, which will allow me to transcribe the discussion and record contributions more accurately. I will ask each person to introduce themselves for the recording, however I will change all names when I write up the study. If you do not want to have your voice recorded, you are free to refuse consent to this. In this instance, we will not record your group and will instead take detailed, hand-written notes. We may also ask you to write down some of your ideas based on the discussion.

At the end of study, you will receive a certificate to thank you for taking part.

An important note is that, despite completing this training session, you are under no obligation to actually practice as a peer mentor. This study is looking at your views of the training **only** and taking part by no means ties you to actually being a peer mentor.

## What happens to the results of the study?

Results for each young person taking part are kept strictly confidential. Only a number will be used to identify you, and all information and results are kept as a password-protected files on a departmental computer in the researcher's office at the University.

The research will be written up as part of a student's work. It will also be submitted to an academic journal for publication.

We also aim to publish our findings in scientific journals, but this may be two to three years from the end of the study. We will ask all participants for their permission to use direct quotes.

All research data and records will be stored for a minimum retention period of 3 years after publication or public release of the work of the research. Third parties may be given access to research data for monitoring and/or audit of the study, or for data storage purposes.

## What are the advantages / disadvantages of taking part?

### Advantages:

- Developing new skills
- Increasing your awareness of signs and symptoms of common mental health issues
- Learning how to offer support to friends and peers who are struggling with their mental health
- Contributing to a wider body of research around peer support in schools

### Possible disadvantages/risks:

- Feeling uncomfortable when hearing about the fictional account during the training.
- Feeling that you then need to become a peer mentor following the training when you are not sure you want to be.

In order to reduce these risks, the researchers will give a full explanation of the study and will be available to answer any questions or concerns. You, as a participant, may withdraw from the study at any time without explanation, and can discuss with your form tutor and [designated school staff member] about any other issues.

## Will anyone else know I'm doing this?

We will keep your information private. This means we will only tell those who have a need or right to know, such as the research team and your parents/carer. We will only share information that has your name and address removed.

## What if I don't want to take part in the research anymore?

Just tell your parents/carer and the people carrying out the research that you don't want to take part. You don't have to give a reason and no one will be annoyed with you. It is YOUR choice.

## Who is organising and funding the research?

The research is organised by Tom King of Oxford University, who is a Master's student, and Dr. Mina Fazel, who is a Consultant Child and Adolescent Psychiatrist and Associate Professor of Psychiatry at the University of Oxford.

## Who has reviewed the study?

Before any research involving people can start, it has to be checked by a Research Ethics Committee to make sure that it is OK for the research to go ahead. This study has been approved by the University of Oxford Central University Research Ethics Committee.

## What if there is a problem or something goes wrong?

Please tell us if you are worried about any part of this study, by contacting the researcher (thomas.king@psych.ox.ac.uk). You may also talk to your teacher/parent/carer who will let the researcher know. If you are still unhappy or wish to make a complaint, either you or your teacher/parent(s)/carer(s) can contact the chair of the Research Ethics Committee at the University of Oxford (Chair, Medical Sciences Inter-Divisional Research Ethics Committee; Email: ethics@medsci.ox.ac.uk; Address: Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD).

## Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the study.
The University will process your personal data for the purpose of the research outlined above. Research is a task that we perform in the public interest.
Further information about your rights with respect to your personal data is available from http://www.admin.ox.ac.uk/councilsec/compliance/gdpr/individualrights/.

## Contact details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Tom King
Department of Psychiatry
Warneford Hospital, Oxford, OX2 6HG
Contact number: 01865 618277
Email: thomas.king@psych.ox.ac.uk

***Thank you for reading this – please ask any questions if you need to.***

# Appendix V – Pilot Study consent form

**PARTICIPANT CONSENT FORM**

CUREC Approval Reference: R62310/RE001

**'Friend2Friend Study': A Small, Observational Pilot Study Investigating the Acceptability of an Interactive Online Tool for Training Adolescent Peer Mentors to Support Student Mental Health and Wellbeing in Secondary Schools**

Purpose of Study:

- To see whether an online, interactive 'peer mentor' training tool is useful and could be used in schools.

| | | *Please initial each box* |
|---|---|---|
| 1 | I confirm that I have read and understand the information sheet version v1.1 dated _____04/02/2019_____ for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. | ☐ |
| 2 | I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences or academic penalty. | ☐ |
| 3 | I understand that research data collected during the study may be looked at by designated individuals from the University of Oxford where it is relevant to my taking part in this study. I give permission for these individuals to access my data. | ☐ |
| 4 | I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee. | ☐ |
| 5 | I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project. | ☐ |
| 6 | I understand how this research will be written up and published. | ☐ |
| 7 | I understand how to raise a concern or make a complaint. | ☐ |
| 8 | I consent to being audio recorded | ☐ |
| 9 | I understand how audio recordings will be used in research outputs | ☐ |

10 I agree to take part in the study ☐

_____ dd / mm / yyyy _____

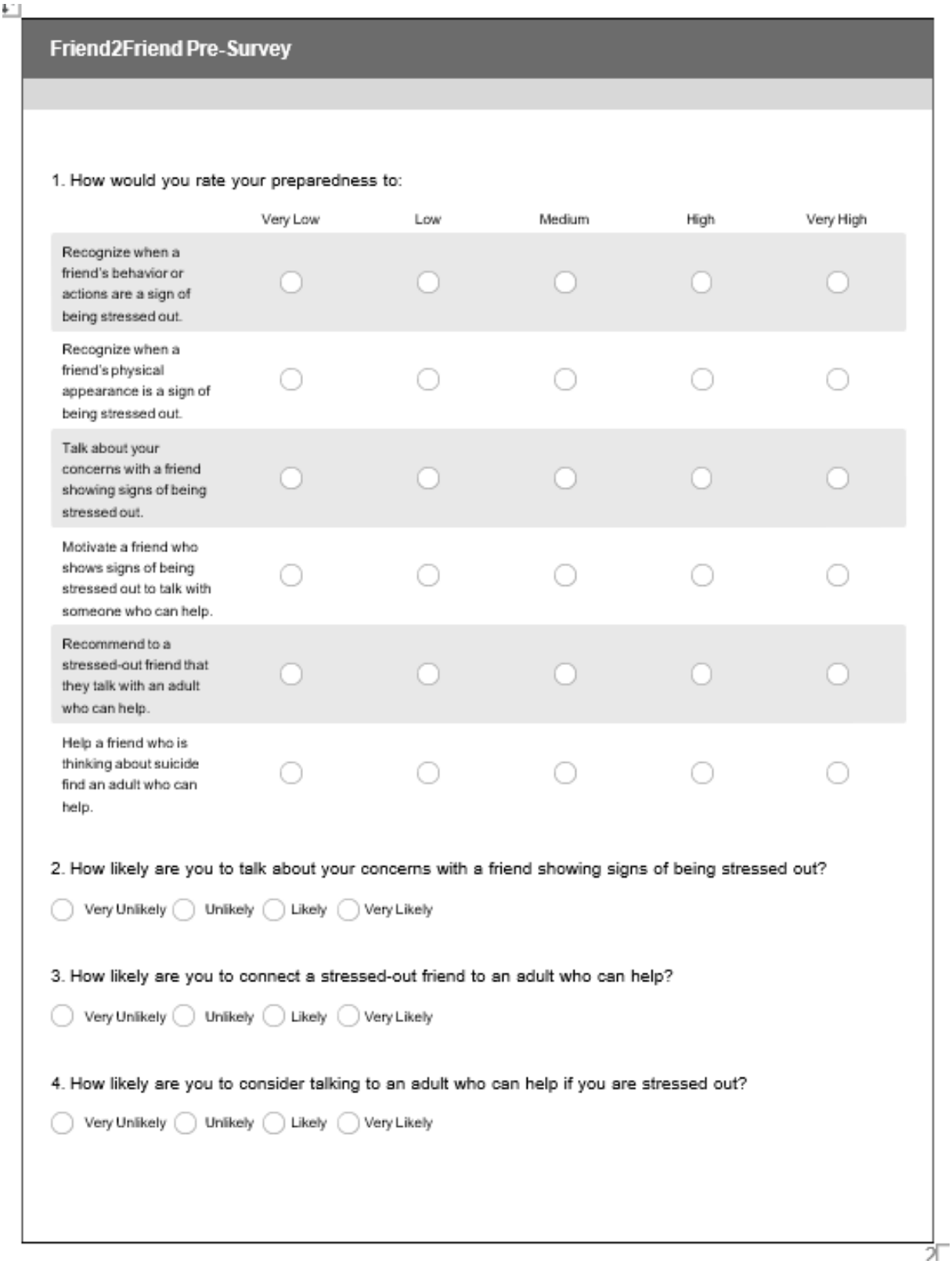
Name of Participant Date Signature

_____ dd / mm / yyyy _____

Name of person taking consent Date Signature

# Appendix VI – Friend2Friend Questionnaires

Pre-test survey:



**Friend2Friend Pre-Survey**

1. How would you rate your preparedness to:

| | Very Low | Low | Medium | High | Very High |
|---|---|---|---|---|---|
| Recognize when a friend's behavior or actions are a sign of being stressed out. | ○ | ○ | ○ | ○ | ○ |
| Recognize when a friend's physical appearance is a sign of being stressed out. | ○ | ○ | ○ | ○ | ○ |
| Talk about your concerns with a friend showing signs of being stressed out. | ○ | ○ | ○ | ○ | ○ |
| Motivate a friend who shows signs of being stressed out to talk with someone who can help. | ○ | ○ | ○ | ○ | ○ |
| Recommend to a stressed-out friend that they talk with an adult who can help. | ○ | ○ | ○ | ○ | ○ |
| Help a friend who is thinking about suicide find an adult who can help. | ○ | ○ | ○ | ○ | ○ |

2. How likely are you to talk about your concerns with a friend showing signs of being stressed out?

○ Very Unlikely ○ Unlikely ○ Likely ○ Very Likely

3. How likely are you to connect a stressed-out friend to an adult who can help?

○ Very Unlikely ○ Unlikely ○ Likely ○ Very Likely

4. How likely are you to consider talking to an adult who can help if you are stressed out?

○ Very Unlikely ○ Unlikely ○ Likely ○ Very Likely

5. Please rate how much you agree/disagree with the following statements:

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|---|---|---|---|---|
| I feel confident in my ability to talk about my concerns with a friend showing signs of being stressed out. | ○ | ○ | ○ | ○ |
| I feel confident in my ability to recommend to a stressed-out friend that they talk with an adult who can help. | ○ | ○ | ○ | ○ |
| I feel confident that I know where a stressed-out friend can find an adult who can help. | ○ | ○ | ○ | ○ |
| I feel confident in my ability to help a friend that is thinking about suicide find an adult who can help. | ○ | ○ | ○ | ○ |
| I feel confident that if I were stressed out I would consider talking to an adult who can help. | ○ | ○ | ○ | ○ |
| Part of the role of students is to connect stressed-out friends to adults who can help. | ○ | ○ | ○ | ○ |

6. In the past two academic months, how many friends have you...

| | |
|---|---|
| Been concerned about because they seemed stressed out? | |
| Approached to discuss your concerns about their being stressed out? | |
| Connected with an adult who can help? | |

3

Post-test survey:

## Appendix 2.2 Friend2Friend Post-Survey

Dear student:

This short survey has been designed to assist your school in assessing the course you just completed.

Your participation in this survey is voluntary. There will be no negative consequences to you if you decide not to participate. All of your identifying information is confidential and your answers will be anonymous. Your results will be combined with responses from other survey participants and may be presented at scientific or medical meetings or published in scientific journals. By submitting your answers to this survey, you are agreeing that you have read and understand the nature and consequences of participation.

Thank you for your participation.

* 1. After taking the course, how would you rate your preparedness to:

| | Very Low | Low | Medium | High | Very High |
|---|---|---|---|---|---|
| Recognize when a friend's behavior or actions are a sign of being stressed out. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Recognize when a friend's physical appearance is a sign of being stressed out. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Talk about your concerns with a friend showing signs of being stressed out. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Motivate a friend who shows signs of being stressed out to talk with someone who can help. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Recommend to a stressed-out friend that they talk with an adult who can help. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Help a friend who is thinking about suicide find an adult who can help. | ◯ | ◯ | ◯ | ◯ | ◯ |

* 2. How likely are you to talk about your concerns with a friend showing signs of being stressed out?

◯ Very Unlikely ◯ Unlikely ◯ Likely ◯ Very Likely

* 3. How likely are you to connect a stressed-out friend to an adult who can help?

◯ Very Unlikely ◯ Unlikely ◯ Likely ◯ Very Likely

* 4. How likely are you to consider talking to an adult who can help if you are stressed out?

◯ Very Unlikely ◯ Unlikely ◯ Likely ◯ Very Likely

1

* 5. Please rate how much you agree/disagree with the following statements:

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|---|---|---|---|---|
| I feel confident in my ability to talk about my concerns with a friend showing signs of being stressed out. | ◯ | ◯ | ◯ | ◯ |
| I feel confident in my ability to recommend to a stressed-out friend to talk with an adult who can help. | ◯ | ◯ | ◯ | ◯ |
| I feel confident that I know where a stressed-out friend can find an adult who can help. | ◯ | ◯ | ◯ | ◯ |
| I feel confident in my ability to help a friend that is thinking about suicide find an adult who can help. | ◯ | ◯ | ◯ | ◯ |
| I feel confident that if I were stressed out, I would consider talking to an adult who can help. | ◯ | ◯ | ◯ | ◯ |
| Part of the role of students is to connect stressed-out friends to adults who can help. | ◯ | ◯ | ◯ | ◯ |
| All students in my school should take this course. | ◯ | ◯ | ◯ | ◯ |

* 6. Overall, how would you rate this course?

◯ Poor

◯ Good

◯ Very

Good ◯

Excellent

* 7. Would you recommend the course to your friends?

◯

Yes ◯

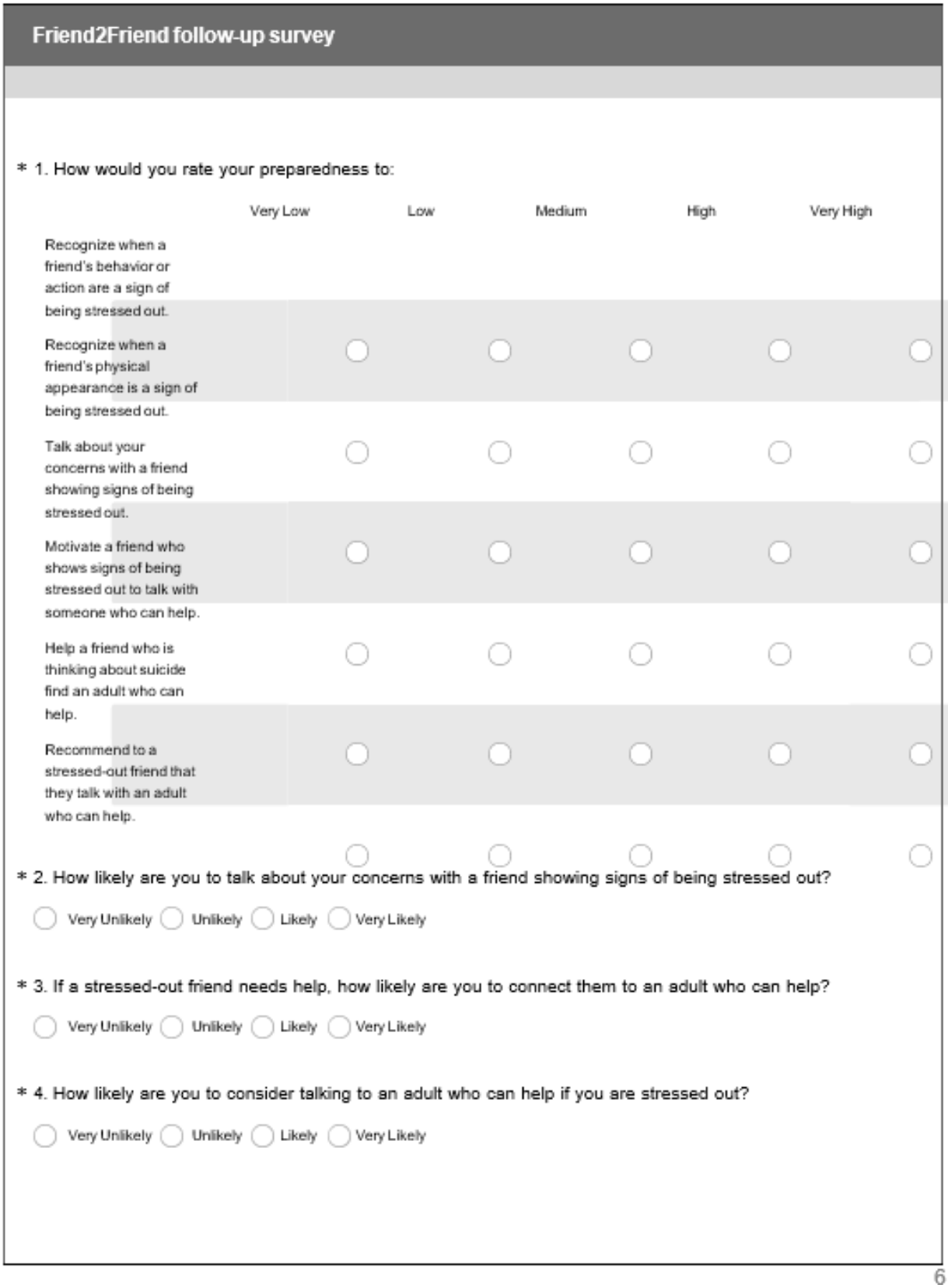
No

* 8. Please indicate to what extent you think that the course is

| | Not at all or to a very little extent | To a little extent | To some extent | To a great extent | To a very great extent |
|---|---|---|---|---|---|
| A useful tool? | ◯ | ◯ | ◯ | ◯ | ◯ |
| Well-constructed? | ◯ | ◯ | ◯ | ◯ | ◯ |
| Easy to use? | ◯ | ◯ | ◯ | ◯ | ◯ |
| Likely to help you help a friend who is stressed out? | ◯ | ◯ | ◯ | ◯ | ◯ |
| Based on scenarios that are relevant to you and your friends? | ◯ | ◯ | ◯ | ◯ | ◯ |
| Able to help you connect a stressed-out friend to an adult who can help? | ◯ | ◯ | ◯ | ◯ | ◯ |

2

Follow-up survey:



## Friend2Friend follow-up survey

* 1. How would you rate your preparedness to:

| | Very Low | Low | Medium | High | Very High |
|---|---|---|---|---|---|
| Recognize when a friend's behavior or action are a sign of being stressed out. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Recognize when a friend's physical appearance is a sign of being stressed out. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Talk about your concerns with a friend showing signs of being stressed out. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Motivate a friend who shows signs of being stressed out to talk with someone who can help. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Help a friend who is thinking about suicide find an adult who can help. | ◯ | ◯ | ◯ | ◯ | ◯ |
| Recommend to a stressed-out friend that they talk with an adult who can help. | ◯ | ◯ | ◯ | ◯ | ◯ |

* 2. How likely are you to talk about your concerns with a friend showing signs of being stressed out?

◯ Very Unlikely ◯ Unlikely ◯ Likely ◯ Very Likely

* 3. If a stressed-out friend needs help, how likely are you to connect them to an adult who can help?

◯ Very Unlikely ◯ Unlikely ◯ Likely ◯ Very Likely

* 4. How likely are you to consider talking to an adult who can help if you are stressed out?

◯ Very Unlikely ◯ Unlikely ◯ Likely ◯ Very Likely

6

* 5. Please rate how much you agree/disagree with the following statements:

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|---|---|---|---|---|
| I feel confident in my ability to talk about my concerns with a friend showing signs of being stressed out. | ○ | ○ | ○ | ○ |
| I feel confident in my ability to recommend to a stressed-out friend that they talk with an adult who can help. | ○ | ○ | ○ | ○ |
| I feel confident that I know where a stressed-out friend can find an adult who can help. | ○ | ○ | ○ | ○ |
| I feel confident in my ability to help a friend that is thinking about suicide find an adult who can help. | ○ | ○ | ○ | ○ |
| I feel confident that if I were stressed out, I would consider talking to an adult who can help. | ○ | ○ | ○ | ○ |
| Part of the role of students is to connect stressed out friends to adults who can help. | ○ | ○ | ○ | ○ |

* 6. In the past two academic months, how many friends have you...

| | |
|---|---|
| Been concerned about because they seemed stressed out? | |
| Approached to discuss your concerns about their being stressed out? | |
| Connected with an adult who can help? | |

7

* 7. Please rate how much you agree/disagree with the following statements:

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|---|---|---|---|---|
| As a result of taking the course, there has been an increase in the number of friends that I recognized as being stressed out. | ◯ | ◯ | ◯ | ◯ |
| As a result of taking the course, there has been an increase in the number of stressed-out friends that I approached to discuss my concerns. | ◯ | ◯ | ◯ | ◯ |
| As a result of taking the course, there has been an increase in the number of stressed-out friends that I connected with an adult who can help. | ◯ | ◯ | ◯ | ◯ |
| As a result of taking the course, there has been an increase in the number of conversations I have had with other students in my school community regarding stressed-out friends. | ◯ | ◯ | ◯ | ◯ |
| As a result of this course if I were stressed out, I would consider talking to an adult who can help. | ◯ | ◯ | ◯ | ◯ |

8. Since you completed this course, were there any instances where you applied the skills you learned? What was the outcome? (Please feel free to use as many words as you need.)

9. Any other suggestions or comments?

8

# Appendix VII – Focus group question sheet

## Question Sheet - Friend2Friend

**Please take 5 or 10 minutes to consider the questions below and write your answers in the space provided.**

1. What did you think about the Friend2Friend training?

_____
_____
_____
_____
_____

2. Since completing the Friend2Friend training, has it changed how you interact with your friends/peers?

_____
_____
_____
_____
_____

3. Have you used any of the skills you learned in any situation since the training? (this could be in any interaction, not just with your friends or in school)

_____
_____
_____
_____
_____

4. Has the training changed how you feel about becoming a peer supporter?

_____
_____
_____
_____
_____

5. What do you think is the best part about being a peer supporter?

_____
_____
_____
_____

_____
___

# Appendix VIII – Screenshots of Friend2Friend tool

*Figure 6 Friend2Friend homepage*




*Figure 7 The avatars set clear goals for the user*

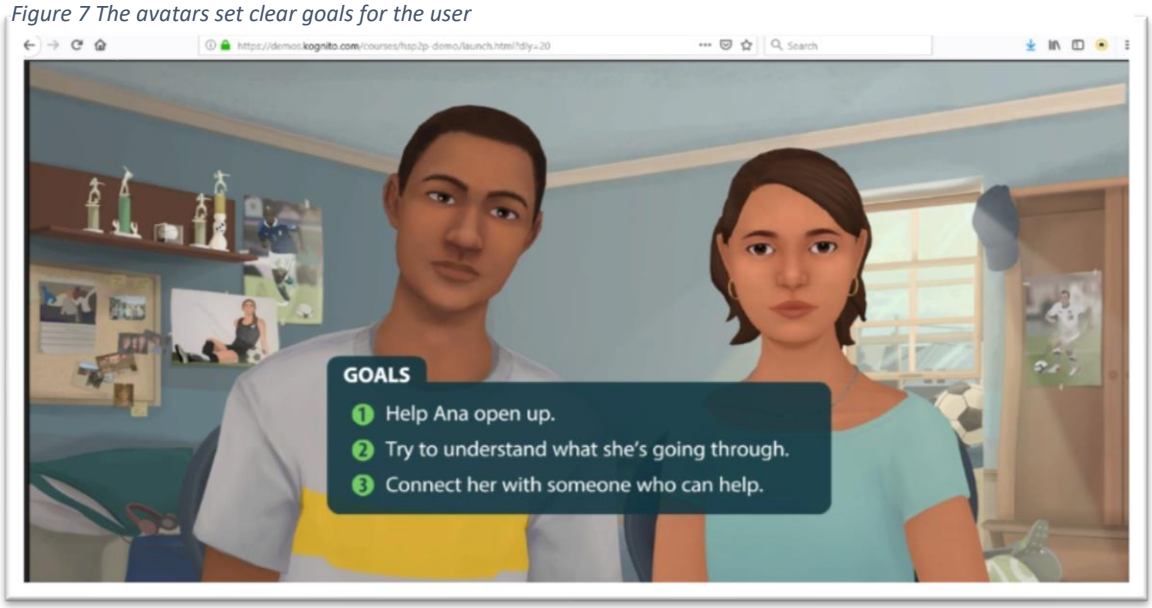
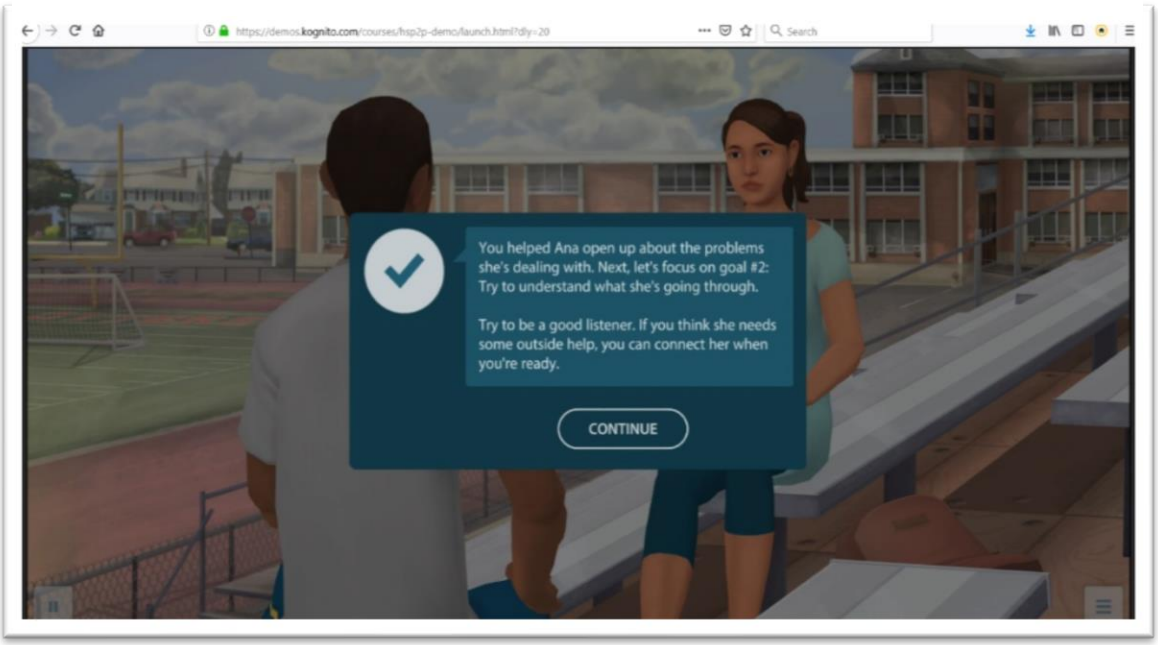


*Figure 8 Example of feedback given by the program*

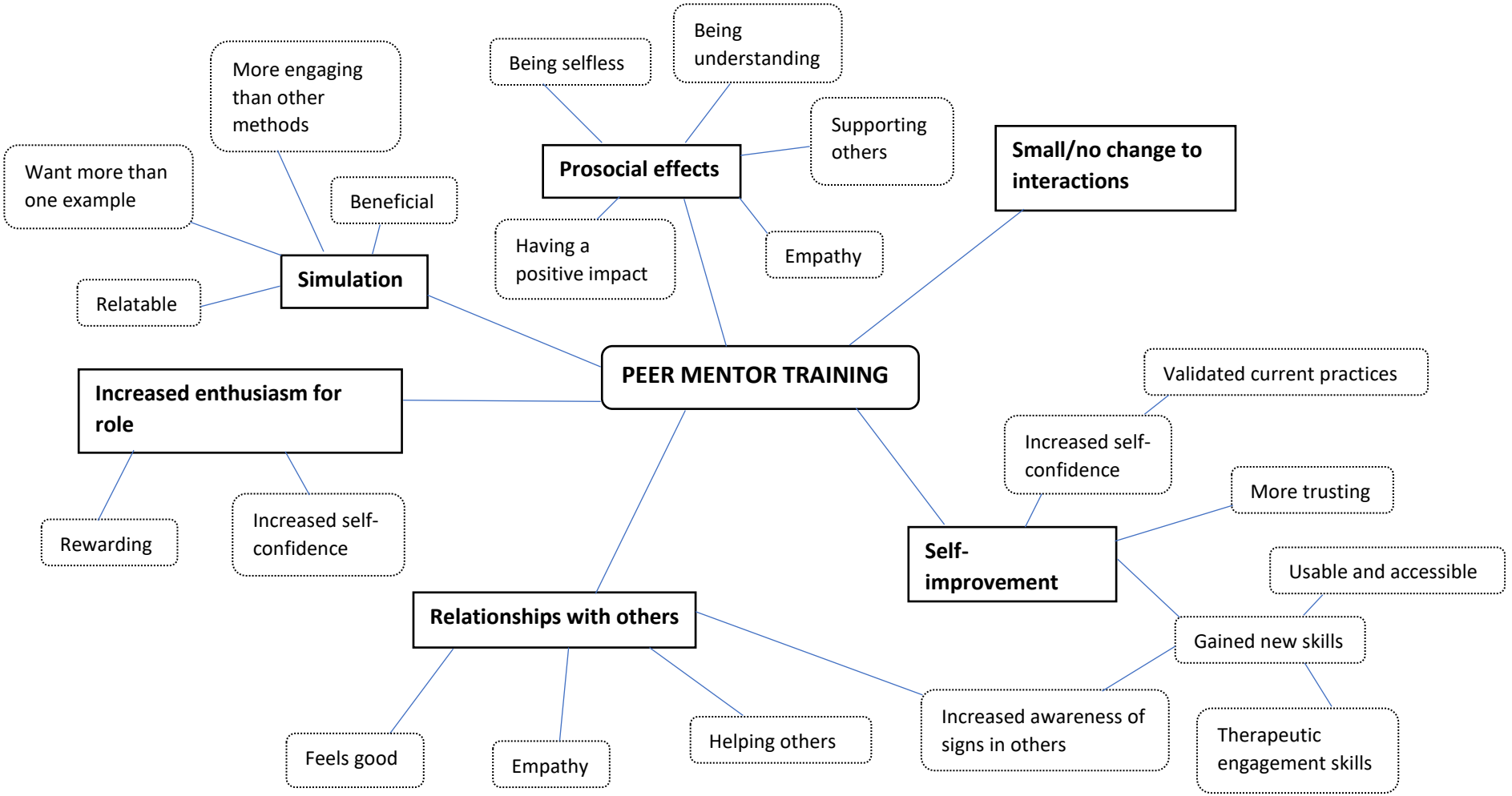



*Figure 9 The user is given feedback on their chosen responses and goals for following interactions*

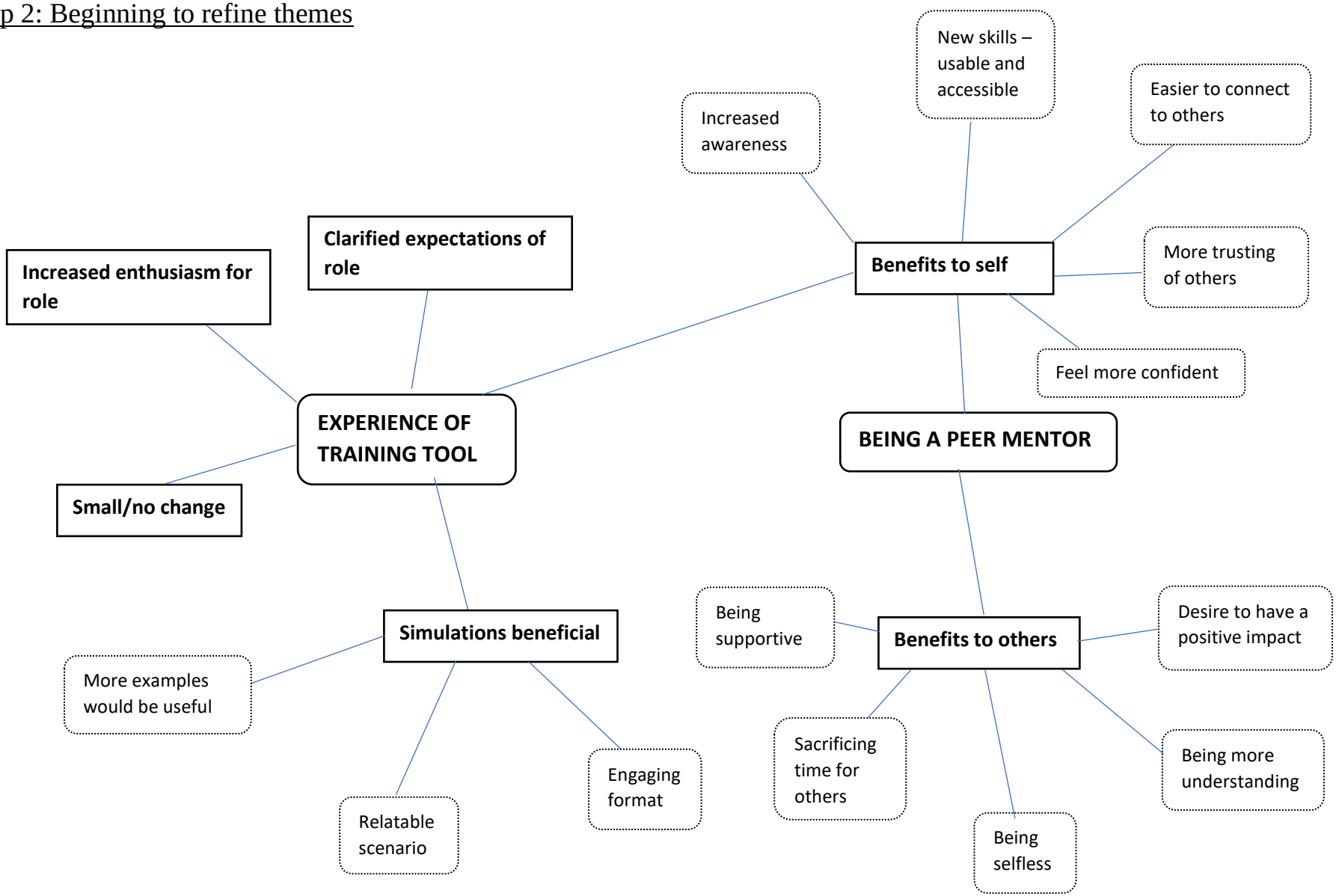


# Appendix IX – Development of thematic maps

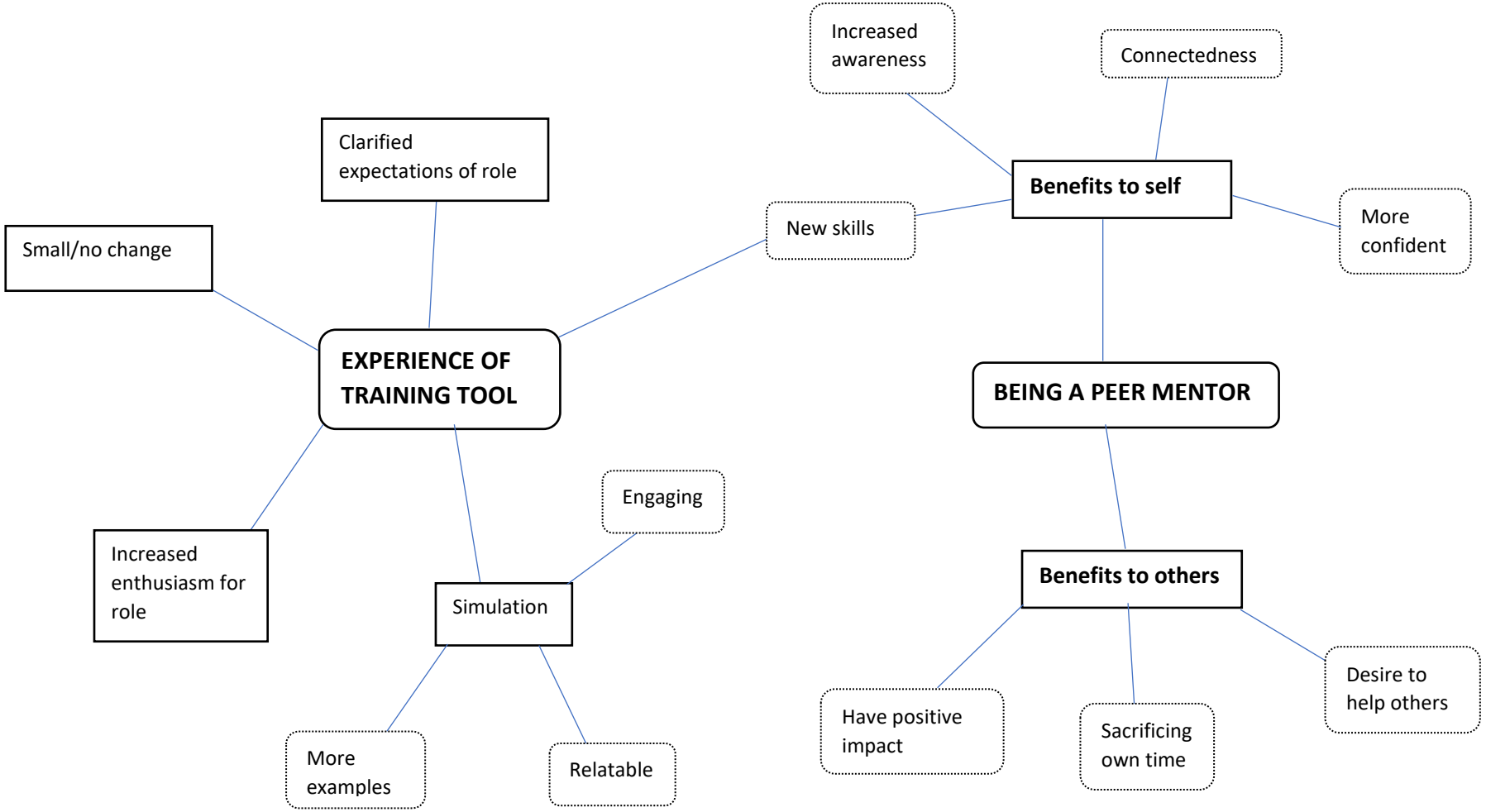
Map 1: Grouping of initial codes



Map 2: Beginning to refine themes



Map 3 – Generation of final themes



# Appendix X – NGT Question sheet responses

| Participant no. | Q1 - What did you think about the F2F training? | Q2 - Since completing the F2F training, has it changed how you interact with your friends/peers? | Q3 - Have you used any of the skills you learned in any situation since the training? | Q4 - Has the training changed how you feel about becoming a peer supporter? | Q5 - What do you think is the best part about being a peer supporter? |
|---|---|---|---|---|---|
| 1 | Useful to view some of the resources that are put in place that you can refer people to if you are concerned about them, also a good simulation that tackles a real situation | It hasn't changed anything major however I am more actively looking for signs of stress or issues in mental health | I am more likely to make sure I fully understand the situations that my friends are going through | Yes, it has made the role more clear as to what to do and how situations should be handled in a more controlled manner | The ability to make genuine progress that is noticable and beneficial to someone's life |
| 2 | Informative and useful in reinforcing some of the ways that already interact with my friends. It was useful it being interactive as well rather than written as I felt better able to engage with the situations | To an extent it has slightly [illegible] how I interact but I am used to talking through problems with my friends so am quite established already in how to deal with my friends | No not yet, as a situation has not presented itself where I would have needed to use it | Yes it has made me even more enthusiastic about becoming one | The ability to help others to navigate through tough situations whilst also bettering your own interpersonal skills |
| 3 | I thought it was beneficial and much-needed information. I am glad that I took part in it. I feel that it was a good use of our time. | I already had a basic understanding as [sic] how to approach similar situations, but I did learn that the importance to suggest a third-party the issues that they are having. I have been more mindful as [sic] how I advise and talk to them. | Yes. I had to talk to a friend about personal issues and I remained objective and recommended a third party. | It has only encouraged me even more-so [sic] to take part. | Helping others, being selfless and using your time for the benefit of others |
| 4 | It was informative and helpful especially in showing the type of things you should and shouldn't say | It has made me more aware of when people are struggling and how I can help my friends | Yes, when friends are feeling stressed, I can help them better by offering advice | Yes, it made me feel more comfortable when trying to connect with people. It made it easier | Being able to understand and support people in difficult or stressful situations |
| 5 | It was useful in terms of telling me that I was communicating with people in the correct way | Yes. It has given me greater confidence when speaking about topics some may find difficult. I have also found that I can trust more people around me | Yes. This training has helped me to recognise certain aspects about people and their behaviours | It has made me want to do it more | The responsibility of trust by people. The trustworthiness |
| 6 | I thought it was really useful to see how you shouldn't push a situation with someone, and allow them to open up | To be honest, no | Once or twice | Encouraged me to help people who are struggling | Free tuck |
| 7 | Had a positive outcome and enhanced my awareness around the topic | Not really, however I am more aware of what to look out for | To a degree with my close friends | Yes, originally I hadn't been aware of what it entails | Providing help and having that responsibility |
| 8 | I thought it was very helpful, I have already used some techniques in my support skills for a year 9 student who I am helping at the moment | to say and what not to say to my pupils who I support, such as making sure I empathise with their situation and not to critisize them | I have tried to make the pupil feel at ease in my presence before asking direct, more personal questions | I feel more confident in supporting the pupils as I have a better understanding of the do's and don'ts | The satisfaction of positively impacting someone's life and improving their mental wellbeing |