CHAPTER TWENTY EIGHT

A Review of Mental Health in Healthcare Students: Strategies and Suggestions

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ABSTRACT

This chapter seeks to identify common predictors of mental health problems in university students studying healthcare subjects by synthesising our research findings and suggesting helpful approaches for these issues. Poor mental health of students is a cause for concern in many universities, being associated with higher dropout rates and poor academic performance. Healthcare students in particular are known to suffer from a wide range of stressors including academic pressure and stress experienced in practice. Accordingly, our research has recruited various healthcare student groups and explored their mental health status, and have found that self-compassion has consistently been identified as the strongest predictor of good mental health. Students who were kind and understanding towards themselves and their weaknesses, have tended to retain better mental health. These findings indicate that cultivating self-compassion is an effective way to protect the mental health of healthcare students. Strategies centred around increasing self-compassion are discussed. Social marketing and digitalisation approaches may be particularly useful to incorporate into the current curriculum in healthcare studies. Self-compassion needs to be cultivated in order to protect the mental health of the next generation of this essential worker group.

Keywords*:* Self-compassion; Mental Health; Healthcare Students; Emotion Regulation; e-Mental Health

Poor Mental Health in University Students

Poor student mental health is a cause for concern in many universities because it can be detrimental to their academic achievement, result in higher rates of withdrawal (Keong et al., 2015), and diminish their chances to secure higher level employment or progress to postgraduate study (Office for Students, 2019). Data from the Higher Education Statistics Agency (2017) indicates that more students are withdrawing from university due to mental health problems, and this trend puts additional pressure on university staff (Advance HE, 2018) to respond accordingly and demonstrate the effectiveness of their services and practices (Randall & Bewick, 2016). University students have poorer mental health than the general population (Neves & Hillman, 2017), and research has identified several associated factors that may explain this.

One such factor is *age*: being in the age range that is typical for university students (late adolescence and early adulthood) is a predisposing factor for experiencing poor mental health (Kessler et al., 2007). For many students, university is their first experience of independence away from home, leading to a reduction in parental support and taking on new responsibility as they shift into adulthood, which can make this transition very difficult (Hunt & Eisenberg, 2010). *Transition* can be a challenging experience for most individuals (Evans, 2000; Harvey et al., 2006) and university students have the additional stressors of navigating a competitive academic environment with a substantial transition to independent learning. University students also tend to experience *poor quality sleep*, which has been linked to increased anxiety levels (Norbury & Evans, 2019). Lastly, many students are navigating these new, turbulent educational situations whilst also experiencing the negative impacts of *financial hardship* (Universities UK, 2018).

Student mental health is expected to continue to suffer. The UK's Royal College of Psychiatrists has predicted an increase in mental health cases due to the impact of the government's Widening Participation agenda, which encourages universities to recruit students from socially disadvantaged backgrounds. Although a positive step for society, the agenda coincides with reductions in funding that students receive from the government. The inadequate financial support of students, who are already experiencing financial instability, could also exacerbate the recent increased mental health problems within this population (Royal College of Psychiatrists, 2010). Studies in American universities have documented an increase in depression (Mojtabai et al., 2016) and suicidal thoughts (Twenge et al., 2018) within the student body, with national survey data indicating an increase in access to mental health services (Lipson et al., 2019). However, some speculate that this increase in need is multifaceted, and argue that increased service access is partly a consequence of better awareness and more effective outreach than an actual rise in mental illness (Duffy et al., 2019).

Lastly, the COVID-19 pandemic has also placed increased attention on student mental health, both in the UK and internationally. The necessary lockdowns and social distancing measures to curb the transmission of the virus have exacerbated triggers of poor mental health. In a recent study evaluating the impact of the pandemic on students from seven American universities, students reported changes in their mental state including lack of motivation, anxiety, stress, and isolation (Browning et al., 2021). Similarly, students in China have reported increased anger, sadness, anxiety, and fear (Cao et al., 2020), and students in Switzerland have reported reduced social interaction and higher levels of stress, anxiety, and loneliness (Elmer et al., 2020).

Mental Health Difficulties in Healthcare Students

There is growing concern for the mental health and wellbeing of students in professional healthcare programs (Cleary et al., 2012). It has been argued that students of healthcare disciplines are at higher risk of mental health issues including stress and depression (Ting, 2011). Unlike non-healthcare programmes, students on healthcare courses have the added requirements of a professional practice placement and clinical responsibilities, alongside demanding theoretical and academic obligations (Kim et al., 2021; Othman, 2013). As a consequence, nursing students have been known to experience higher levels of stress and anxiety than non-nursing students, resulting in depression, sleep disorders and stress-related illnesses (Bartlett, Taylor, & Nelson, 2016).

In addition to the usual stressors of university life such as family issues, the economic burden of studying, and negative views on future career prospects, healthcare students are required to have contact with patients and deal with patients' issues (Kim et al., 2021). Working in hospital settings in the presence of disease and suffering, with demanding workloads and arduous training, is one factor contributing to the psychological pressures of the placement environment (Manchri et al., 2017). It is suggested that these factors increase healthcare students' vulnerability to mental health problems, thus impacting their academic performance and efficacy in professional practice (Kim et al., 2021; Namdar et al., 2013). Students undertaking nursing programmes and placement commonly experience burnout, alterations in eating and sleeping habits, and minor psychiatric disorders; with typical symptoms including insomnia, fatigue, sadness, irritability, forgetfulness, concentration difficulties and somatic complaints (Melo de Souza et al., 2014). With this in mind, it has been noted that undergoing a nursing placement exposes students to the workload associated with nurses already in the role (Melo de Souza et al., 2014), and so their clinical experience can be an indicator of what they

can expect as a graduate. Aside from the realities and challenges of clinical placement, course content has also been known to conflict with some students' personal beliefs and values, which can result in additional psychological distress (Thomas & Asselin, 2018).

The mental health implications discussed above are not exclusive to nursing students. Social work students report high levels of depressive symptoms and histories of suicidal ideation (Horton, Diaz & Green, 2009), and students of psychotherapy training programmes are thought to be vulnerable to symptoms of stress and burnout (Beaumont et al., 2016) due to contact with clients presenting with emotional distress, suicidal thoughts, and self-harm (De Stefano et al., 2012). Accordingly, psychotherapy students can experience anxiety and feelings of being overwhelmed or incompetent due to their responsibilities in responding to ethical and legal issues in relation to confidentiality and client disclosure (De Stefano et al., 2012; Reeves et al., 2004).

Because students in healthcare programmes are required to respond to challenging situations in real clinical practice, it is imperative that they maintain their psychological wellbeing (Thomas & Asselin, 2018). But healthcare students can face additional barriers to help seeking when it comes to supporting their mental health (Eisenberg et al., 2007; Kotera et al., 2019; Ting, 2011). A study by Ting (2011) found that social work students with depressive symptoms were reluctant to engage in support due to reasons such as a lack of time, resources, and knowledge of how to access services. Other prevailing barriers in help-seeking included shame, a sense of stigma or embarrassment, concerns around their confidentiality being maintained, distrust in mental health services, and denial of their problems or need for support (Ting, 2011). It is also suggested that students tend to believe that they need to be mentally healthy to help others who experience mental distress, which creates a perception amongst

students that they are not capable of becoming social workers if they have mental health problems of their own (Kotera, Green & Sheffield, 2019).

Our Research Findings

To examine healthcare students' mental health and relevant psychological factors, we have conducted several studies focusing on the mental health of social work students (Kotera, Green & Sheffield, 2019, 2020; Kotera & Maughan, 2020), nursing students (Kotera, Cockerill, Chircop & Forman, 2020; Kotera, Cockerill, Chircop, Kaluzeviciute & Dyson, 2021), and psychotherapy and occupational therapy students (Kotera, Green & Sheffield, 2019, 2021).

Despite the seriously poor mental health that has been reported in those student groups (e.g., Hsiung et al., 2019; Lamont et al., 2017), they are known to have low levels of help-seeking (Ting, 2013). One possible reason for this may be that they are highly aware of the professional standard they have to follow—which may appear as an unrealistic perfect worker with pristine mental health—and thereby experience mental health shame (Kotera, Green & Sheffield, 2019; Gibson, 2016). Indeed, about 90% of healthcare students become a healthcare professional in their field (Association of Graduate Careers Advisory Services editors, 2017; Royal College of Nursing, 2019). Mental health shame has been thoroughly investigated in our studies.

We've also evaluated caregiver identity (i.e., how strongly one identifies oneself as someone who cares for others) and self-compassion (i.e., sensitivity to notice one's own suffering and commitment to mitigate it), in terms of how it impacts healthcare students' mental health. Previous research has indicated that having a strong caregiver identity can explain negative perceptions towards mental health problems and poor mental health in healthcare students, because those students may believe that they should be the ones offering care for others and should therefore not be on the receiving side (Ting, 2011). Likewise, self-

compassion has been identified as a key negative correlate with mental health problems and mental health shame: students who are kind to themselves tend to have better mental health and less mental health shame (Trompetter et al., 2017).

Our studies indicate that mental health problems are positively associated with mental health shame and caregiver identity, and negatively associated with self-compassion (Kotera, Green & Sheffield, 2019; Kotera & Maughan, 2020). Moreover, self-compassion has been consistently the strongest predictor of mental health problems (Kotera, Cockerill, Chircop, Kaluzeviciute & Dyson, 2021; Kotera, Green & Sheffield, 2019, 2021). In line with Trompetter et al.'s findings (2017), ours also suggests that self-compassion is a protective factor for their mental health: healthcare students who are kind and understanding towards themselves tend to have better mental health. And considering the high levels of mental health shame these students seem to have, it is important to consider how it can be ameliorated in these populations. It is proposed that instead of focusing on reducing mental health problems directly, a better approach may be to cultivate self-compassion—which may, in turn, bypass their high mental health shame and improve wellbeing. Self-compassion's relationship to mental health must therefore be closely appraised.

How Self-Compassion Supports Mental Health

In the following section, we will take a closer look at how self-compassion may support mental health. We will briefly examine the term 'self-compassion,' including how it emerged in the literature and has been operationalised since. This will include a review of how self-compassion has been theorised to support mental health as both a predictor of mental wellbeing and buffer against psychopathology. Also included will be a brief review of studies on the links between self-compassion and mental health in a range of populations. Finally, with our theoretical foundation, we will begin to explore how self-compassion may support mental

health in practice, concentrating on the Mindful-Self Compassion programme developed by Germer and Neff (2013).

Operationalising Self-Compassion

In recent years, there has been a burgeoning interest in the relationship between compassion and mental health outcomes (Gilbert, 2005), and the field is rapidly expanding. The construct of compassion itself has been understood and operationalised in a variety of ways (Kotera & Van Gordon, 2021), which can pose problems for measurement in empirical studies if heterogeneous definitions are applied. Therefore, it is important to understand the ways this concept has been employed thus far. We start here with a brief survey of these below.

Goetz, Keltner and Simon-Thomas (2010) defined compassion as ‘a distinct affective experience whose primary function is to facilitate cooperation and protection of the weak and those who suffer’ (p. 351). On this view, the distinctive features of compassion are connected with perceiving another's suffering, which is theorised to trigger a motivation to help, and is located within a broader array of compassion-related states, such as, empathy, sympathy, and pity. All of these affective states are united in their promotion of a desire to ameliorate the suffering of others; however, large differences can be observed in terms of their cognitive and behavioural representations. Compassion may operate in practice from an initial affective response, culminating eventually in a cognitive and/or behavioural action (Keltner & Lerner, 2010).

Meanwhile, Neff (2003) conceptualised self-compassion as a healthy perspective and relationship with oneself, and as: ‘being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering

and to heal oneself with kindness. Self-compassion also involves offering non-judgmental understanding to one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience.' (p. 87). Neff argues that self-compassion should correspond to higher wellbeing, as determined by lower levels of depression and anxiety and increased life satisfaction.

Finally, Gilbert (2005; 2010) conceptualised compassion through an evolutionary lens, specifically focusing on the interaction between three systems: perceived threat, motivational and soothing systems, which correspond directly to neurophysiological reactions (Depue & Morrone-Strupinsky, 2005; Liotti & Gilbert, 2011). According to Gilbert (2010), the threat-based system is intended for the identification of danger or threat and is closely linked to the firing of survival mechanisms to protect against perceived threat. The threat system is understood as interconnected with negative emotions, comprising anger, disgust, fear and shame. Meanwhile, positive affect is associated with the drive and soothing systems. Specifically, the drive system is associated with motivation and reward-based systems such as evolutionary necessities (e.g., nutrition, sexual activity and mating, interpersonal support systems, and territories). Finally, the soothing system is hypothesised to be connected to the mammalian evolution of the attachment system. In other words, we have an in-built system which drives our volition towards alleviating distress in others. According to this tripartite model, compassion is rooted in the capacity for individuals to co-operate and engage in relational connection (Bowlby, 1973; Gilbert, 2005). Accordingly, compassion is framed as part of an evolved motivational system intended to regulate negative affect through attunement to the feelings of self and others.

Now that we have briefly reviewed three conceptualisations of (self-)compassion, alongside theoretical pathways associated with self-compassion and mental health, let us turn to the empirical literature on how self-compassion supports mental health.

Empirical Literature Examining Self-Compassion and Mental Health

Compassion has emerged as a vital construct in studies of wellbeing, mental health and psychological therapy, yet research exploring associated mechanisms of change in self-compassion is still in its infancy (Findlay-Jones, 2017). As discussed, theoretical models of compassion often each variously emphasise different aspects including compassionate appraisals (Goetz et al., 2010), self-compassion and healthy self to self-relating (Neff, 2003), and social mentalities that foster compassionate qualities to aid the attunement, to and alleviation of, distress in others (Gilbert, 2005; 2010). Whilst there are differences in the way these measurement constructs have been applied, all models are united in their prediction that compassion is associated with improved wellbeing and lower psychological distress. Various empirical studies have used self-compassion constructs to evaluate relationships between compassion and mental health. We now turn to explore some of these—in particular, those using a systematic approach by synthesising all available literature on the association between self-compassion and mental health.

In their meta-analysis examining the association between self-compassion and psychopathology, MacBeth and Gumley (2012) identified 20 samples from 14 different studies and compared their results, finding a large effect size for the relationship between compassion and psychopathology. Compassion was found to be a principal explanatory variable in understanding mental health, and hence greater levels of compassion were explicitly associated with lower levels of mental health symptoms. These findings provide direct empirical evidence,

pooled from a range of studies, for earlier theoretical models which have suggested compassion may support wellbeing by reducing anxiety and depression and increasing resilience to life stressors (e.g., Feldman & Kuyken, 2011; Gilbert, 2010; Hofmann et al., 2011). Whilst the authors caution against causal inference due to the cross-sectional nature of these studies, they do provide promising evidence for the benefit of self-compassion on mental health.

Meanwhile, in their systematic review on mechanisms of change in the relationship between self-compassion, emotion regulation and mental health, Inwood and Ferrari (2018) concluded that self-compassion is beneficial for mental health in a diverse range of populations, through facilitation of emotion regulation. Furthermore, the ability for individuals to 'be present with their distress' (p.19) was seen to enable positive outcomes.

Finally, in a large-scale meta-narrative review, Sinclair et al. (2017) synthesised findings from 69 published papers to explore how and whether self-compassion promotes healthcare providers' wellbeing and compassionate care to others. Whilst the authors acknowledged the benefits of self-compassion for reducing stress and optimising an individual's ability to care for others, they also cautioned about current difficulties with the construct measurement of self-compassion in research studies. They concluded that self-compassion as a research construct often lacks specificity and validity. For example, it shares commonality with other emotional aspects of the self. Nevertheless, despite these potential weaknesses with research in this area, a growing body of evidence and therapeutic work is attesting to the wide range of potential benefits that compassion may hold for mental health and wellbeing.

Self-Compassion in Practice

Many of us find it simple to show compassion for a friend or family member when they are struggling with a difficult or stressful life experience. But when we begin to experience difficulties for ourselves, it can be a different story. Paradoxically, we are often less likely to apply the same compassion and kindness we would for others when it comes to our own struggles. This often leads to us becoming excessively self-critical and judgemental, attacking our own thinking and responses, which leads to further difficulties.

There is growing evidence, however, to suggest that mindfulness and self-compassion approaches are effective for improving one's psychological wellbeing and reducing self-critical thoughts may maintain distressing feelings. Germer and Neff (2013) were the first to formally combine self-compassion constructs with mindfulness approaches into a set and formal therapy. Whilst the concepts of self-compassion and mindfulness overlap, they are not the same. Mindfulness, within the context of self-compassion, refers to 'being aware of one's painful experiences in a balanced way that neither ignores nor ruminates on disliked aspects of oneself or one's life', while self-compassion 'emphasises soothing and comforting the "self" when distressing experiences arise' (Neff & Germer, 2013, p. 2). Combined, these make up the foundations of Mindful Self-Compassion (MSC; Neff & Germer, 2013). So, how does MSC alleviate mental distress and support mental wellbeing? Below we will highlight some core clinical processes used in MSC, which seem to support mental health. This is a dense topic that we will not fully explore; for a full review, see Neff and Germer (2013).

Mindful Self-Compassion therapy was developed by Neff and Germer (2013). In their formal group program, participants are required to meet for about 2½ hours each week for a total of eight weeks. They may also attend a short silent meditation retreat. The MSC programme is both psychoeducational and experiential in that it teaches a range of meditations

(e.g., loving-kindness, affectionate breathing) and informal practices for use in daily life (e.g., soothing touch, self-compassionate letter writing).

Self-compassion is cultivated during sessions using experiential exercises, alongside home practices, which are taught in order help participants further strengthen the habit of self-compassion in their daily lives. While the course principally focuses on building the skill of self-compassion, many of its associated meditations and experiential exercises are concentrated on using self-compassion as a foundation for sustaining and increasing compassion for others, given that the two intersect.

Topics covered in these therapies may range from psychoeducational sessions, which teach the foundations of self-compassion and mindfulness as applied to mental health and other experiential sessions and workshops, including how to:

- stop being so hard on yourself
- manage difficult emotions with more ease
- encourage yourself with support rather than criticism
- change both old and new difficult relationships
- incorporate mindfulness and self-compassion practices into everyday life
- understand theory and research behind mindful self-compassion, and
- become your own best educator

Sample practices taken from MSC include the *Self-Compassion Break*, whereby individuals pause and recognise difficult experiences in the present whilst visualising and declaring a compassionate response to ourselves. Another common practice includes, *Giving and Receiving*, which is a core meditation in the MSC programme. These exercises combine body work, such as mindful attention to breathing coupled with visualisation exercises, in which we anticipate a compassionate response to self and others (Neff & Germer, 2017).

In their randomised controlled study comparing outcomes of the MSC programme with a waitlist control group (n = 52 in total), Neff and Germer (2013) reported that the MSC participants showed significantly greater increases in self-compassion, mindfulness, compassion for others, and life satisfaction, and significantly larger decreases in depression, anxiety, stress, and emotional avoidance. Taken together, these results point to MSC therapy as a promising future intervention for ameliorating mental distress and psychological suffering.

Suggestions for Universities

Self-compassion has been consistently identified as an important facet of psychological wellbeing in university students. It has been found to increase satisfaction of the need to feel effective during personally challenging tasks (e.g., competence), feel a sense of ownership over one's decisions (e.g., autonomy), and feel a sense of belonging and connection with other students (e.g., relatedness: Gunnell et al., 2017). These findings suggest that interventions to increase self-compassion could lead to not only improved student resilience (Smeets et al., 2014) but also positive wellbeing and fewer/less severe mental health issues (MacBeth & Gumley, 2012). However, there remains a wider gap in the research on developing and applying interventions that would increase self-compassion in educational contexts (Gunnell et al., 2017). This concluding section provides an overview of several interventions that are currently being implemented in university settings and are beginning to show promising results across various student populations.

According to Reavley and Jorm (2010), universities are particularly suitable for early identification and prevention of mental health problems because they encompass several important dimensions of students' lives beyond education, such as extracurricular activities, social networks, residence, health services, etc. Universities that are sufficiently staffed (both

in number and qualification; Freeman, Barker & Pistrang, 2008) could therefore lead to a variety of effective interventions both at individual and group levels.

At individual level, Reavley and Jorm (2010) suggest cognitive-behavioural therapy (CBT), online support groups and detailed educational/personalised feedback as effective interventions. In particular, CBT has been suggested as a viable form of treatment for students experiencing depression or anxiety (Butler et al., 2006). Because CBT has been identified as a cost and time effective therapeutic modality, it arguably lends itself better to non-clinical settings such as education than other, longer and more frequent forms of psychotherapy (Myhr & Payne, 2006). Beyond formal psychotherapy—which may, indeed, be the less sought out option by students due to difficulties in expressing mental health issues (Kessler et al., 2007)—online support group interventions have been identified as potentially effective for maintaining peer support and self-compassion (Freeman et al., 2008). Finally, personalised feedback interventions have been shown to be effective for students who seek out help (Kelly, Jorm & Wright, 2007). For example, a study by Chiauzzi et al. (2008) demonstrated that online stress management interventions via motivational feedback (previously identified as central to the experience of self-compassion) reduce depressive symptoms and help students to develop coping strategies.

At a group level, social marketing interventions have been proposed as a way to achieve public health goals (Reavley & Jorm, 2010). For example, the use of posters, postcards, and other brief information formats were found to be helpful and effective in educating post-secondary students about depression and other complex mental health phenomena (Merritt et al., 2007). Although this information does not necessarily convey data about effective treatments, social marketing can be used to increase students' ability to recognise symptoms of depression and other disorders, which subsequently encourages them to seek out help. Larun

et al. (2006) also described a greater need for education on self-help interventions has been outlined. This is particularly important when considering the limits (e.g., long waiting list times, lack of staff) of public health services, such as the UK's National Health Service.

Finally, given the increasing digitalisation in educational services caused by technological development— particularly since the dramatic shift to online education in response to the COVID-19 pandemic—e-mental health services (Bolinski et al., 2020) and digital mental health interventions (Becker & Torous, 2019) are being utilised more frequently. This includes the use of common short-term therapeutic modalities and interventions, such as CBT, mindfulness, ACT (Acceptance and Commitment Therapy) and others, through digital settings. Although the flexibility, cost-effectiveness, and stigma-reduction of such interventions makes them promising for students who suffer from anxiety, depression, and low-academic performance (Becker & Torous, 2019), further research into the development of e-mental health services is needed. Some of the key issues in developing internet-based interventions include low student adherence and the possibility of low efficacy in real-world settings. Addressing these issues further will allow students in higher education contexts receive higher quality online psychological support, and subsequently increase self-compassion across student populations.

Conclusion

This chapter discussed the mental health status of healthcare students, and reviewed our related research findings. Self-compassion, understood to be related to activation of the soothing system, has been shown to be a strong predictor for good mental health in diverse healthcare student groups. Theoretical and practical mechanisms of self-compassion and mental health were introduced. Universities can incorporate self-compassion training and education into their curriculum to support this student group.

REFERENCES

Advance HE. (2018, September 6). *Equality and higher education: Students statistical report 2018*. https://www.advance-he.ac.uk/knowledge-hub/equality-higher-education-statistical-report-2018

Association of Graduate Careers Advisory Services. (2017). What can I do with my degree? Occupational therapy. Retrieved from https://www.prospects.ac.uk/careers-advice/what-can-i-do-with-my-degree/occupational-therapy. Accessed 31 Jul 2020.

Bartlett, M.L., Taylor, H., and Nelson, J.D. (2016). Comparison of mental health characteristics and stress between baccalaureate nursing students and non-nursing students. *Journal of Nursing Education, 55*, 87–90.

Beaumont, E., Durkin, M., Hollins-Martin, C.J. and Carson, J., (2016). Measuring relationships between self-compassion, compassion fatigue, burnout and well-being in student counsellors and student cognitive behavioural psychotherapists: a quantitative survey. *Counselling and Psychotherapy Research,16*(1), 15-23.

Becker, T.D., & Torous, J.B. (2019). Recent Developments in Digital Mental Health Interventions for College and University Students. *Current Treatment Options in Psychiatry, 6*, 210–220. https://doi.org/10.1007/s40501-019-00178-8

Bolinski, F., Boumparis, N., Kleiboer, A., Cuijpers, P., Ebert, D. D., Riper, H. (2020). The effect of e-mental health interventions on academic performance in university and college students: A meta-analysis of randomized controlled trials. *Internet Interventions, 20*, 100321. https://doi.org/10.1016/j.invent.2020.100321

Bowlby, J. (1973). *Attachment and loss.* The Hogarth Press.

Browning, M. H., Larson, L. R., Sharaievska, I., Rigolon, A., McAnirlin, O., Mullenbach, L., ... & Alvarez, H. O. (2021). Psychological impacts from COVID-19 among university students: Risk factors across seven states in the United States. *PloS one, 16*(1), e0245327.

Butler, A. C., Chapman, J. E., Forman, E. M., Beck, A. T. (2006). The empirical status of cognitive–behavioral therapy: a review of meta-analyses. *Clinical Psychology Review, 26*, 17–31.

Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*, *287*, 112934.

Chiauzzi, E., Brevard, J., Thum, C., Decembrele, S., Lord S. (2008). MyStudentBody-Stress: an online stress management intervention for college students. *Journal of Health Community, 13*, 555–572.

Cleary, M., Horsfall, J., Baines, J., & Happell, B. (2012). Mental health behaviours among undergraduate nursing students: Issues for consideration. *Nurse Education Today, 32*(8), 951–955. https://doi.org/ 10.1016/j.nedt.2011.11.016

De Stefano, J., Atkins, S., Noble, R.N. and Heath, N. (2012). Am I competent enough to be doing this? A qualitative study of trainees' experiences working with clients who self-injure. *Counselling Psychology Quarterly*, *25*(3), 289-305.

Depue, R. A., & Morrone-Strupinsky, J. V. (2005). A neurobehavioral model of affiliative bonding: Implications for conceptualizing a human trait of affiliation. *Behavioral and Brain Sciences, 28*(3), 313-349.

Duffy, M. E., Twenge, J. M., & Joiner, T. E. (2019). Trends in mood and anxiety symptoms and suicide-related outcomes among US undergraduates, 2007–2018: Evidence from two national surveys. *Journal of Adolescent Health, 65*(5), 590-598.

Eisenberg, D., Golberstein, E. and Gollust, S. (2007) Help-seeking and access to mental health care in a university student population, *Medical Care, 45*(7), 594–601.

Elmer, T., Mepham, K., & Stadtfeld, C. (2020). Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. *Plos One*, *15*(7), e0236337.

Evans, M. (2000). Planning for the transition to tertiary study: A literature review. *Journal of Institutional Research*, *9*(1), 1-13.

Feldman, C., & Kuyken, W. (2011). Compassion in the landscape of suffering. *Contemporary Buddhism*, *12*, 143–155.

Findlay-Jones, A. (2017). The relevance of self-compassion as an intervention target in mood and anxiety disorders: A narrative review based on an emotion regulation framework. *Clinical Psychologist, 21*, 90–103.

Freeman, E., Barker, C., Pistrang, N. (2008). Outcome of an online mutual support group for college students with psychological problems. *CyberPsychology & Behavior*, *11*, 591–593.

Germer, C. K., & Neff, K. D. (2013). Self-compassion in clinical practice. *Journal of Clinical Psychology*, *69*(8), 856-867.

Gibson, M. (2016). Constructing pride, shame, and humiliation as a mechanism of control: A case study of an English local authority child protection service. *Children and Youth Services Review*, *70*, 120–128. https://doi.org/10.1016/j.childyouth.2016.09.016

Gilbert, P. (Ed.). (2005). *Compassion: Conceptualisations, research and use in psychotherapy*. Routledge.

Gilbert, P. (2010). An introduction to compassion focused therapy in cognitive behavior therapy. *International Journal of Cognitive Therapy*, *3*(2), 97-112.

Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: an evolutionary analysis and empirical review. *Psychological Bulletin*, *136*(3), 351.

Gunnell, K. E., Mosewich, A. D., McEwen, C. E., Eklund, R. C., & Crocker, P. R. E. (2017). Don't be so hard on yourself! Changes in self-compassion during the first year of university are associated with changes in well-being. *Personality and Individual Differences, 107*, 43-48. https://doi.org/10.1016/j.paid.2016.11.032

Harvey, L., Drew, S., & Smith, M. (2006). *The first-year experience: a review of literature for the Higher Education Academy*. Higher Education Academy.

Higher Education Statistics Agency. (2017). *Non-continuation rates summary: UK Performance Indicators 2015/16.* https://www.hesa.ac.uk/data-and-analysis/%20performance-indicators/non-continuation-summary

Hofmann, S. G., Grossman, P., & Hinton, D. E. (2011). Loving-kindness and compassion meditation: Potential for psychological interventions. *Clinical Psychology Review*, *31*(7), 1126-1132.

Horton, G., Diaz, N. & Green, D. (2009) Mental health characteristics of social work students: Implications for social work education. *Social Work in Mental Health*, *7*(5), 458–75.

Hsiung, D. Y., Tsai, C. L., Chiang, L. C., & Ma, W. F. (2019). Screening nursing students to identify those at high risk of poor mental health: A cross-sectional survey. *BMJ Open*, *9*(6), e025912. https://doi.org/10.1136/bmjopen-2018-025912

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behaviour among college students. *Journal of adolescent health*, *46*(1), 3-10.

Inwood, E., & Ferrari, M. (2018). Mechanisms of change in the relationship between self-compassion, emotion regulation, and mental health: A systematic review. *Applied Psychology: Health and Well-Being*, *10*(2), 215-235.

Keltner, D., & Lerner, J. S. (2010). Emotion. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), Handbook of social psychology (p. 317–352). John Wiley & Sons.

Kelly, C. M., Jorm, A. F., Wright, A. (2007). Improving mental health literacy as a strategy to facilitate early intervention for mental disorders. *The Medical Journal of Australia, 187*, S26–S30.

Keong, P. P., Sern, L., Lee, M., & Ibrahim, C. (2015). The relationship between mental health and academic achievement among university students-a literature review. In *Second International Conference on Global Trends in Academic Research* (Vol. 2, pp. 755-64).

Kessler, R. C., Angermeyer, M., Anthony, J. C. et al. (2007). Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World Psychiatry, 6*, 168–176.

Kim, S. C., Sloan, C., Montejano, A., and Quiban, C. (2021). Impacts of Coping Mechanisms on Nursing Students' Mental Health during COVID-19 Lockdown: A Cross-Sectional Survey. *Nursing Reports*, *11*(1), 36-44. https://doi.org/10.3390/nursrep11010004

Kotera, Y., Green, P., & Sheffield, D. (2019). Mental Health Attitudes, Self-Criticism, Compassion and Role Identity among UK Social Work Students. *British Journal of Social Work*, *49*(2), 351–370. https://doi.org /10.1093/bjsw/bcy072

Kotera, Y., Green, P., & Sheffield, D. (2019). Mental Health Attitudes, Self-Criticism, Compassion and Role Identity among UK Social Work Students. *British Journal of Social Work*, *49*(2). https://doi.org/10.1093/bjsw/bcy072

Kotera, Y, Green, P., & Sheffield, D. (2019). Roles of positive psychology for mental health in UK social work students: Self-compassion as a predictor of better mental health. *The British Journal of Social Work, 50*(7), 2002–2021. https://doi.org/10.1093/bjsw/bcz149

Kotera, Y., Cockerill, V., Chircop, J. G. E., & Forman, D. (2020). Mental health shame, self-compassion and sleep in UK nursing students: Complete mediation of self-compassion in sleep and mental health. *Nursing Open*, nop2.749. https://doi.org/10.1002/nop2.749

Kotera, Y., Green, P. & Sheffield, D. (2020). Positive psychology for mental wellbeing of UK therapeutic students: Relationships with engagement, motivation, resilience, and self-compassion. *International Journal of Mental Health and Addiction*. https://doi.org/10.1007/s11469-020-00466-y

Kotera, Y. & Maughan, G. (2020). Mental health of Irish students: Self-criticism as a complete mediator in mental health attitudes and caregiver identity. *Journal of Concurrent Disorders.*

Kotera, Y., Cockerill, V., Chircop, J., Kaluzeviciute, G., & Dyson, S. (2021). Predicting self-compassion in UK nursing students: Relationships with resilience, engagement, motivation and mental wellbeing. *Nurse Education in Practice*. https://doi.org/10.1016/j.nepr.2021.102989

Kotera, Y. & Van Gordon, W. (2021). Effects of self-compassion training on work-related wellbeing: A systematic review. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2021.630798

Kotera, Y., Green, P., & Sheffield, D. (2019). Mental health shame of UK construction workers: Relationship with masculinity, work motivation, and self-compassion. *Journal of Work and Organizational Psychology, 35*(2), 135–143. https://doi.org/10.5093/jwop2019a15

Kotera, Y., & Ting, S. H. (2019). Positive psychology of Malaysian university students: impacts of engagement, motivation, self-compassion, and wellbeing on mental health. *International Journal of Mental Health and Addiction*, 1–13. https://doi.org/10.1007/s11469-019-00169-z

Kotera, Y., Green, P. & Sheffield, D. (2019). Mental health of therapeutic students: Relationships with attitudes, self-criticism, self-compassion, and caregiver identity. *British Journal of Guidance and Counselling*. http://doi.org/10.1080/03069885.2019.1704683

Lamont, S., Brunero, S., Perry, L., Duffield, C., Sibbritt, D., Gallagher, R., & Nicholls, R. (2017). 'Mental health day' sickness absence amongst nurses and midwives: workplace, workforce, psychosocial and health characteristics. *Journal of Advanced Nursing*, *73*(5), 1172–1181. https://doi.org/10.1111/jan.13212

Larun, L., Nordheim, L. V., Ekeland, E., Hagen, K. B., Heian, F. (2006). Exercise in prevention and treatment of anxiety and depression among children and young people. *Cochrane Database of Systematic Reviews*, *3*, CD004691.

Liotti, G., & Gilbert, P. (2011). Mentalizing, motivation, and social mentalities: Theoretical considerations and implications for psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice*, *84*(1), 9-25.

Lipson, S. K., Lattie, E. G., & Eisenberg, D. (2019). Increased rates of mental health service utilisation by US college students: 10-year population-level trends (2007–2017). *Psychiatric services*, *70*(1), 60-63.

MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review*, *32*(6), 545-552.

Manchri, H., Sanagoo, A., Jouybari, L., Sabzi, Z., and Jafari, S. Y. (2017). The relationship between mental health status with academic performance and demographic factors among students of university of medical sciences. *Journal of Nursing & Midwifery Sciences*, *4*(1), 8–13. https://doi.org/10.18869/acadpub.jnms.4.1.8

Melo de Souza, L., Lopes Oliveira, E., & De Souza Pinheiro, I. (2014). Psychiatric Disorders in Nursing Students. *Journal of Nursing UFPE / Revista de Enfermagem UFPE*, *8*(12), 4320–4329. https://doi.org/10.5205/1981-8963-V8I12A10179P4320-4029-2014

Mojtabai, R., Olfson, M., & Han, B. (2016). National trends in the prevalence and treatment of depression in adolescents and young adults. *Paediatrics*, *138*(6).

Myhr, G., & Payne, K. (2006). Cost-Effectiveness of Cognitive-Behavioural Therapy for Mental Disorders: Implications for Public Health Care Funding Policy in Canada. *The Canadian Journal of Psychiatry*, *51*(10), 662-670. https://doi.org/10.1177/070674370605101006

Namdar, A. H., Ebrahimi, H., Sahebihagh, M. H., and Arshadi, B. M. (2013). Mental health and its relationship with academic achievement in students of Tabriz Nursing-Midwifery school. *Iranian Journal of Medical Education; 13*(2), 146-52.

Neff, K.D. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*(2), 85-101.

Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology*, 69(1), 28-44.

Neff, K. D. & Germer, C. (2017). Self-Compassion and Psychological Wellbeing. In J. Doty (Ed.) Oxford Handbook of Compassion Science, Chap. 27. Oxford University Press.

Neves, J., & Hillman, N. (2017). Student academic experience survey. *Higher Education Policy Institute and Higher Education Academy*, *12*, 47-48.

Norbury, R., & Evans, S. (2019). Time to think: Subjective sleep quality, trait anxiety and university start time. *Psychiatry research*, *271*, 214-219.

Office for Students. (2019, June 5). *Innovation, partnership and data can help improve student mental health in new £14m drive*. https://www.officeforstudents.org.uk/news–blog–and– events/press–and–media/innovation–partnership–and–data– can–help–improve–student–mental–health–in–new–14m– drive/

Othman, C.N., Farooqui, M., Yusoff, M. S. B., and Adawiyah, R. (2013). Nature of stress among health science students in a Malaysian university. *Procedia - Social and Behavioral Sciences, 105*, 249–257. https://doi.org/10.1016/j.sbspro.2013.11.026

Randall, E. M., & Bewick, B. M. (2016). Exploration of counsellors' perceptions of the redesigned service pathways: a qualitative study of a UK university student counselling service. *British Journal of Guidance & Counselling*, *44*(1), 86-98.

Reavley, N., & Jorm, A.F. (2010). Prevention and early intervention to improve mental health in higher education students: a review. *Early Intervention in Psychiatry*, *4*, 132-142. https://doi.org/10.1111/j.1751-7893.2010.00167.x

Reeves, A., Bowl, R., Wheeler, S., and Guthrie, E. (2004). The hardest words: exploring the dialogue of suicide in the counselling process a discourse analysis. *Counselling and Psychotherapy Research Journal*, *4*(1), 62-71.

Royal College of Nurses. (2019). The UK nursing labour market review 2018. *Royal College of Nursing*.

Royal College of Psychiatrists (2010). Mental health of students in higher education. Royal College of Psychiatrists. https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/college-reports/college-report-cr166.pdf?sfvrsn=d5fa2c24_4

Sinclair, S., Kondejewski, J., Raffin-Bouchal, S., King-Shier, K. M., & Singh, P. (2017). Can self-compassion promote healthcare provider well-being and compassionate care to others? Results of a systematic review. *Applied Psychology: Health and Well-Being*, *9*(2), 168-206.

Smeets, E., Neff, K., Alberts, H., & Peters, M. (2014). Meeting suffering with kindness: Effects of a brief self-compassion intervention for female college students. *Journal of Clinical Psychology*, *70*(9), 794-807. https://doi.org/10.1002/jclp.22076

Thomas, L. J., & Asselin, M. (2018). Promoting resilience among nursing students in clinical education. *Nurse Education in Practice*, *28*, 231–234. https://doi.org/10.1016/j.nepr.2017.10.001

Ting, L. (2011) Depressive symptoms in a sample of social work students and reasons preventing students from using mental health services: An exploratory study. *Journal of Social Work Education, 47*(2), 253–68.

Trompetter, H. R., de Kleine, E., & Bohlmeijer, E. T. (2017). Why does positive mental health buffer against psychopathology? An exploratory study on self-compassion as a resilience mechanism and adaptive emotion regulation strategy. *Cognitive Therapy and Research*, *41*(3), 459–468. https://doi.org/10.1007/s10608-016-9774-0

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, *6*(1), 3-17.

Universities UK. (2018, May 11). *Minding our future: Starting the conversation about the support of student mental health.* https://www.universitiesuk.ac.uk/minding-our-future