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# Exploring coping resiliency and depression among university students in a post-pandemic context

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## ABSTRACT

**Objectives:** Emerging research investigating the impact of the COVID-19 pandemic has indicated mental health issues are particularly prominent among university student populations.

**Method:** The current research explored how a small sample of students in the UK had been impacted by the pandemic, focusing on coping resiliency and depression. In this study, 80 university students completed two self-reported measures of depression and coping resilience.

**Results:** Showed students' levels of depression were relatively high, which negatively correlated with their coping resiliency. Students' perspectives were further explored via open-ended questions. Anxiety was a big issue, and many students' health had been impacted by the pandemic, which resulted in a change in their coping behaviours.

**Discussion:** The findings reflected areas of improvement concerning students' university transition experiences to facilitate students' psychological well-being and coping strategies, especially during such a crucial time of development into adulthood.

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## KEYWORDS

University students;  
depression; coping;  
resilience; anxiety

## Introduction

A global COVID-19 pandemic was declared in March 2020 by the World Health Organisation (WHO; 2020) and has had an ongoing, significant influence on health behaviour, work and social environments, day-to-day life, as well as impacting various elements of mental and physical health (Arora & Grey, 2020). The UK Government declared a lockdown on the 23rd of March 2020 which resulted in a 'stay at home' order, where people were ordered to stay inside and cease non-essential social contact, work, or travel (UK Government, 2020). As a result, schools and universities were closed with immediate effect and all teaching and examinations were delivered online while campuses closed across the UK.

The period between adolescence and early adulthood is a crucial developmental stage, as a child progresses into the next stage of their lives. Many adolescents go through major

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life changes as they transition into adulthood during university, with an increase in independence, self-perception, and cognitive development (Pittman & Richmond, 2008). Research into adolescents and young adults who are at university is particularly important in current times; it has been reported that a record high of over 2.66 million students were enrolled in a university or higher education courses in the UK during 2020/2021, despite the restrictions of COVID-19 (House of Commons Library, 2022).

## University and higher education disruption

The first initial lockdown in the UK began to ease in July 2020, with schools and universities utilising a mixture of approaches to tackle teaching during the pandemic. As the pandemic progressed, the UK Government imposed varying degrees of lockdown and social distancing rules which fluctuated throughout 2020 and 2021, impacting in-person teaching. Many students reported disruption due to having to leave campuses and move back home to isolate themselves from their peers.

A comprehensive study by Leal Filho et al. (2021) assessed how university closings had impacted students and staff during worldwide lockdowns and restrictions. 711 respondents from 41 countries worldwide were assessed, with 72% of participants indicating they believed the lockdown had adversely affected their studies and mental health due to a lack of interaction with their peers and academic staff and an inability to fully engage with teaching and learning. A major consideration of disruption to higher education is accessibility. Some students with disabilities reported problems accessing and engaging with content purely delivered online, and in some cases, they could not continue their studies (Lazar, 2021).

Further, problems accessing university lectures or seminars could be detrimental and lead to students feeling excluded or disengaged, which in turn could also impact mental health during the pandemic (Fawaz & Samaha, 2021). Despite these considerations, conclusive research on how disruptions and closures of universities have impacted students is still sparse due to the recent occurrence of the pandemic. More extensive research is needed to draw firm conclusions and gain a greater insight into exactly how COVID-19 has previously and continues to impact the mental health of students in the UK and worldwide.

## Mental health issues among students

Depression is a common mood disorder, affecting around 4.5% of adults in the UK, and is characterized by persistent sadness and low mood alongside a loss of interest or pleasure in activities or social interaction (American Psychiatric Association, 2013; WHO, 2017). There is extensive empirical research centred around depression in university students, which has consistently found that on average, 30.6% of students meet the clinical threshold for a diagnosis (Ibrahim et al., 2013). It has been suggested that this may occur due to the transitional nature of adolescence and university life, with young adults leaving home, becoming independent and an increase in responsibilities.

Lockdown measures in the UK have been suggested to impact mental health for several reasons, including sleep and diet. A longitudinal study (Evans et al., 2021) has compared self-reporting data from 254 UK undergraduate university students regarding

their sleep behaviour, general well-being, depression and anxiety symptoms, and alcohol use. Data was collected in October 2019, before the COVID-19 pandemic, and during the first UK lockdown in April and May of 2020. Pre-pandemic, participants who ranked as clinically depressed were 15% of the sample, however, this rose to 34% during the lockdown. This suggests that the lockdown in the UK significantly increased depression in university students.

Further research by Owens et al. (2022) focused on whether mental health and well-being had been impacted by the pandemic, and whether the severity of the lockdown influenced this finding. 389 university students between the ages of 18–25 were measured on their sleep quality, well-being, mental health, and rumination. Overall, the results found that over 50% of students met the threshold of probable depression at both points of testing. Further, females reported higher levels of depression at both points of testing which could suggest that they struggled more with mental health relating to COVID-19. While levels of depression are particularly worrying in university populations, research has suggested that students who utilise maladaptive coping behaviours have significantly higher levels of depression, anxiety, and reduced life satisfaction (Mahmoud et al., 2012).

### **Coping behaviours and resiliency**

The term ‘coping’ is defined as our response or actions to negative or adverse situations (Ray et al., 1982). Coping resiliency is a concept which explains the ability to utilise effective and positive coping behaviours when faced with stressful or traumatic events or circumstances, mitigating the negative effect these may cause (Leipold & Greve, 2009). Empirical evidence has found that high self-esteem coupled with problem-focused coping behaviours significantly reduces levels of depression in adolescents (Cong et al., 2021). Despite these findings, much of the research into coping and depression in students has focused on a nursing student population and may not apply to a wider student sample.

In the UK, Dawson and Golijani-Moghaddam (2020) suggested that those with adaptive coping behaviours experienced higher levels of psychological well-being. Further, a cross-sectional study by Labrague et al. (2021) explored how coping behaviours influenced loneliness in university students in the Philippines. Students in lockdown who utilised problem-focused coping strategies had significantly fewer physical and mental health problems, however, resilience was found to be low among participants. This finding was reported in several other international studies which suggested levels of resilience were significantly lowered during the pandemic in students in Italy, Spain, and Poland (Forycka et al., 2022; Morales-Rodríguez, 2021; Quintiliani et al., 2022). As coping and resilience are often correlated, this finding suggests more research is needed to understand how coping behaviours, resiliency and depression converge in the context of the post-pandemic Era.

### **Aims and objectives of the current Study**

Considering the nature of the COVID-19 pandemic, research specifically focusing on coping behaviours and depression in university students is still emerging. Research has

indicated that mental health has been adversely affected in students, however much of the current research is predominately on quantitative research methods. Mental health issues are exceptionally complex and can be challenging to fully rationalise through questionnaires and statistical data. Whilst such measures can give us oversight into the frequency and severity of depression or anxiety in a given population, differing experiences of mental health challenges can be extremely personal and differ greatly due to individual differences and contextual background. Further, coping behaviours can be nuanced and challenging to categorise as 'positive' or 'negative' with quantitative measures, as contextual factors can be crucial in interpreting results. For these reasons, the current research will use quantitative self-reporting measures relating to coping resiliency and depression, however, will also utilise qualitative open-ended questions to attempt to capture themes and understanding that may be lacking when research focuses only on quantitative data. This could add depth to the existing knowledge on the links between mental health and coping of individuals during the pandemic. The current research aims to investigate mental health and coping resiliency in students, especially in the post-pandemic context.

### **Hypotheses**

Coping resiliency will negatively correlate with the severity of depression reported by students.

Mental health and coping behaviours in students will have been impacted by lived experiences during the pandemic. It is expected that participants will discuss a change in coping behaviours and mental health when considering current experiences compared to experiences before the COVID-19 pandemic.

## **Methodology**

### **Design**

A correlational and qualitative design was used in this study. Participants completed two questionnaires to assess their level of depressive symptoms and attitudes and their perceived coping resiliency. Through thematic analysis, the current study aims to explore insight into how mental health was affected and how coping behaviours have evolved throughout the pandemic. Open-ended questions were used to explore how students have accessed online support and if their tendencies towards adaptive or maladaptive coping behaviours have changed. Based on their responses, participants were then grouped into either a minimal, mild, moderate, or severe depression group, and a low, medium, or high coping resiliency group.

### **Participants**

Participants were university students aged 18–25 who responded to a post requesting the participation of students in an online questionnaire posted within a university forum and participants recruiting online platforms between April and July 2022. All current participants had also been students during the initial March 2020 UK lockdown at the beginning of the pandemic.

## Materials

Depressive symptoms and attitudes were measured using the Beck Depression Inventory-II (BDI-II), a self-reporting 21-item questionnaire (Beck et al., 1996). The BDI-II uses a 4-point scale and requires participants to rate how they have felt over the previous two weeks. The BDI-II covers a range of topics such as feeling guilty, sadness, and change in appetite and sleep (Warmenhoven et al., 2012). Scores range from 0 to 63, with scores ranging from 0 to 13 suggesting minimal depression, 14–19 suggesting mild depression, 20–28 suggesting moderate depression and 29–63 suggesting severe depression. The BDI-II is a highly reliable and effective scale when used within university and college populations ( $\alpha = .93$ ). Further analysis has indicated that the scale is appropriate for use with university students of diverse ethnicity, as ethnicity did not significantly influence response to items (Carmody, 2005).

Coping resilience was measured by The Brief Resilient Coping Scale (BRCS; Sinclair & Wallston, 2004). The BRCS consists of 4-items which measure the tendency to use positive, adaptive coping skills when facing stressful or hard life events or circumstances. Participants are shown four statements relating to coping resiliency, for example, 'I believe that I can grow in positive ways by dealing with difficult situations'. Participants were asked to rate how well the items describe their behaviour on a 5-point scale, with 1 indicating 'does not describe me at all' and 5 indicating 'describes me well'. Scores range from 4 to 20, with scores ranging from 4 to 13 suggesting low resilient coping, 14–16 suggesting medium resilient coping and 17–20 indicating high resilient coping behaviour. Sinclair and Wallston (2004) reported that, despite the small number of items, the scale had adequate reliability and was effective in capturing coping resiliency ( $\alpha = .76$ ). Further analysis has indicated the BRCS is effective when used in young adults and students populations (Limonero et al., 2014).

## Open-ended questions

The current study contained an opportunity for participants to answer five open questions relating to their experiences of mental health and coping behaviours during the COVID-19 pandemic. The questions included were:

1. 'Do you feel as if the COVID-19 pandemic has affected your mental health? If so, in what ways?'
2. 'During the pandemic, did you access any form of online support for mental health? (For example, online therapy, online GP appointments, etc.)'
3. 'What coping strategies did you use before the pandemic?'
4. 'Did you change the strategies you used to cope with stressful situations as a result of the pandemic?'
5. 'If relevant, which coping strategies have helped you best deal with depression or other mental health issues?'

These questions were optional, and deliberately open questions to allow participants to include as much or as little data as they felt comfortable with. Qualitative data were collected online rather than in-person interviews due to ongoing COVID-19 restrictions

but also allowed participants to be honest and open about potentially challenging topics surrounding the pandemic and mental health.

## Procedure

Ethical approval for this research study was obtained from the university. Participants read a brief introduction about the current research and were told that their participation was voluntary and that their data would be anonymous. They were assured they could skip any questions they did not feel comfortable answering. Participants were then asked to complete demographic information followed by the three questionnaires. Finally, participants were asked to complete open-ended questions regarding coping behaviour and depression during the COVID-19 pandemic. Participants were then given a debrief. Qualitative data were imported into NVivo and analysed using a six-step method of conducting reflexive thematic analysis (Braun & Clarke, 2006; Braun & Clarke, 2019).

The qualitative data were read over several times to gain an overall feel of the main themes emerging from the answers. Information and topics which were repeated within the answers among participants were assigned codes. From these codes, several themes were extracted relating to participants' lived experiences during the pandemic and reflecting on life beforehand. These overarching themes were assessed to ensure they were relevant to the current research and did not have any major overlapping elements. These main themes were then defined and expanded to include further sub-themes and relationships within the qualitative data, in line with the guidance outlined by Braun and Clarke (2019).

## Results

This study consisted of 80 participants recruited via convenience sampling, of which 61 were female, 14 were male and 5 identified as non-binary or third gender. Participants ranged in age from 20 to 25 ( $M = 23.76$ ,  $SD = 1.43$ ) however, two participants preferred not to disclose their age.

### Reliability of scales

To assess the internal reliability of the scale items, Cronbach's alpha was calculated for each scale. The Beck Depression Inventory-II (BDI) consisted of 21 items ( $\alpha = .93$ ), indicating a high level of reliability. The Brief Resilient Coping Scale consisted of 4 items ( $\alpha = .73$ ), indicating an acceptable level of reliability (Table 1).

### Depression and coping resiliency scores

The prevalence of students who met the threshold for depression was 41.2%. 47 participants had minimal depression (58.8%), 13 participants had mild depression (16.3%), 10

**Table 1.** Means and Standard Deviations of participants' scores for each scale.

Scale	<i>M</i>	<i>SD</i>
Beck Depression Inventory-II	14.39	10.95
Brief Resilient Coping Scale	13.27	3.49

participants had moderate depression (12.5%), and 9 participants had severe depression (11.3%). One participant did not complete the questionnaire.

Results indicated that many participants had low coping resiliency, with 40 participants categorised as low resilient copers (50.6%), 21 as medium resilient copers (26.6%) and 18 participants as high resilient copers (22.8%). One participant did not complete the questionnaire.

### The relationship between depression and coping resiliency

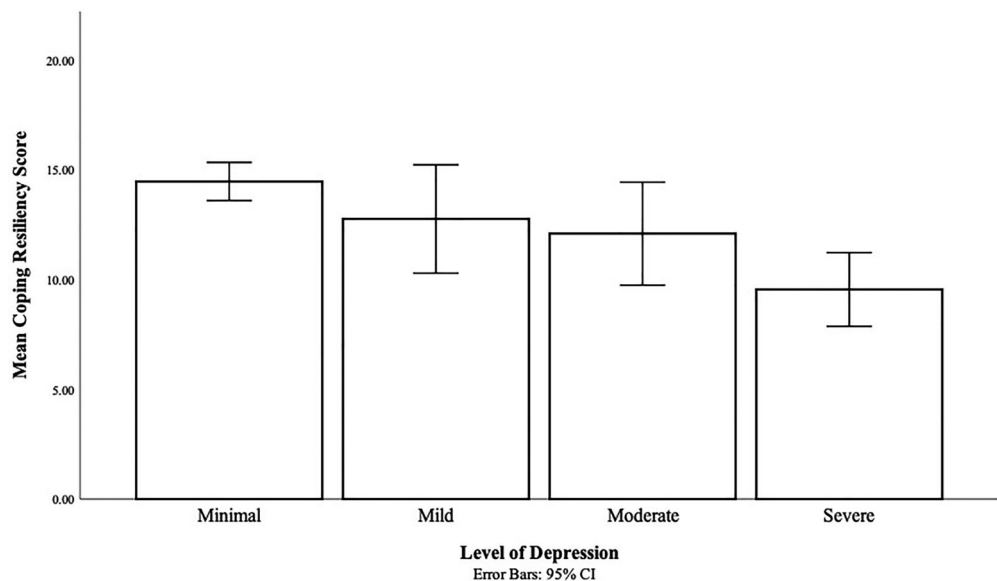
A Pearson correlation coefficient was conducted and revealed that depression and coping resiliency were strongly correlated,  $r(77) = -.514, p < .001$ . This supports the hypothesis that students with higher coping resiliency will have lower levels of depression (Figure 1).

### Qualitative research findings

Of the 80 participants who took part in the research questionnaire, 73 participants answered the optional open-ended questions after completing the previous questionnaires.

### The main overarching themes extracted from the data

Through reflexive thematic analysis, four key themes were identified and extracted from the qualitative data collected from answers to the open-ended questions participants were asked. The main themes identified were *Pre-Pandemic Coping Behaviours*, *General Impact of COVID-19 Pandemic*, *Mental Health during COVID-19 Pandemic* and *Change in Coping Behaviours*. These themes were then further analysed to derive sub-themes of qualitative data that had reoccurred in participant answers.



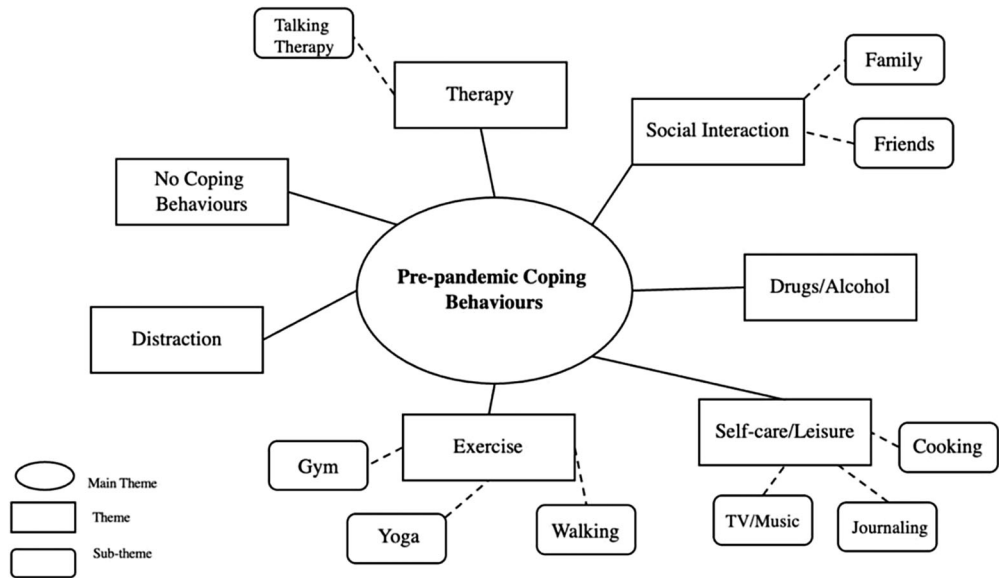
**Figure 1.** A bar chart to show the relationship between levels of depression and coping resiliency.



### Theme 1: pre-pandemic coping behaviours

This theme is defined by the discussion surrounding experiences when the students were asked to think back and retrospectively report if and how they used to utilise coping behaviours before the start of the pandemic (Figure 2).

In response to the question ‘What coping strategies did you use before the pandemic?’, participants retrospectively discussed several themes relating to how they utilised coping behaviours before the COVID-19 pandemic, as shown in Table 2. These were varied, with



**Figure 2.** A thematic map to show the themes and sub-themes that derive from the main theme Pre-Pandemic Coping Behaviours.

**Table 2.** Pre-pandemic Coping Behaviours Themes and Example Quotes.

Themes	Example quotes
Social interaction	‘I used to surround myself with positive people, family and friends’ ‘Friends and socialising, doing fun things, laughing together’
Exercise	‘Going to the gym’ ‘Exercise, gym classes in nice gyms and running’
Self-care/leisure	‘Listening to music ... self-care activities (e.g. film, face masks)’ ‘... cooking, art’
Distraction	‘Try and keep myself busy’ ‘Distraction – staying busy’
Therapy	‘I had antidepressants and a small amount of therapy’ ‘Talking therapy’
Alcohol/drugs	‘Video games and cannabis’ ‘Drugs and alcohol’
No coping behaviours	‘I haven’t felt I’ve needed any [coping strategies]’ ‘Didn’t feel necessary before the pandemic’

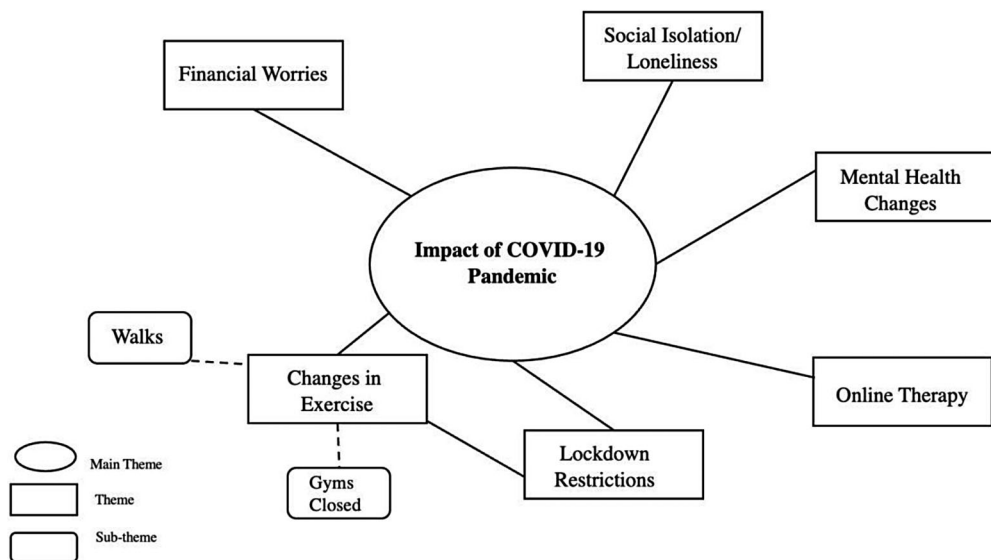
answers suggesting a wide range of coping behaviours had been favoured before the pandemic. Many participants discussed themes relating to social interactions with friends and family, as well as utilising exercise and going to the gym to relieve stress. Self-care and leisure activities were also mentioned, including watching TV, reading, listening to music, journaling, and cooking. Distraction and ‘keeping busy’ were also heavily referenced, however, these ideas were not often expanded on to discuss how participants were distracting themselves from stressful situations. Six participants mentioned therapy as a coping tactic which they had previously utilised. A small number of responses indicated the use of drugs and alcohol to cope, however, this did not seem to be extensive or widespread throughout the sample.

The largest proportion of the responses indicated that no coping behaviours were utilised that they could recall, and from this emerged a narrative of the idea that coping behaviours were not necessarily needed before the pandemic as many participants felt their mental health was not particularly bad or of concern.

## Theme 2: general impact of the COVID-19 pandemic

This theme was defined by responses concerning the impact of the COVID-19 pandemic on the lived experiences of participants throughout the qualitative responses (Figure 3).

Throughout the answers given to the range of questions asked, several key themes emerged from the data due to repetition in the responses of participants, as shown in Table 3. One of the most reoccurring ideas that surfaced from the participants’ answers was surrounding the change in mental health during the pandemic and especially during the lockdown. Feelings of depression and anxiety were reiterated by many students. Social isolation and loneliness were also heavily mentioned, as the lockdown changed the way they could interact with their friends and families. Changes in



**Figure 3.** A thematic map to show the themes and sub-themes that derive from the main theme Impact of the COVID-19 Pandemic.

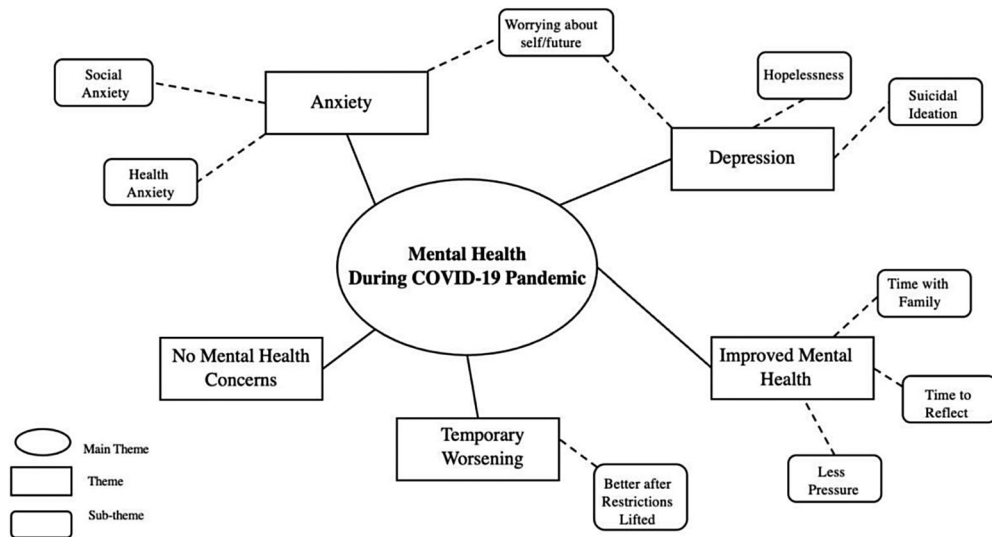
**Table 3.** Impact of COVID-19 pandemic themes and example quotes.

Themes	Example quotes
Social isolation/loneliness	'Feelings of isolation due to lack of social Contact' 'I couldn't see my friends in the same way'
Mental health changes	'... I'm always anxious and less trusting of People' 'It made me want to kill myself because I had no way of making new friends'
Lockdown restrictions	'... work from home in a new job and limited social contact' 'More time meant you had to focus on other things and compare yourself to everyone'
Changes in exercise	'I couldn't go to the gym, [I] felt like I had lost a lot of the hard work I had put in before Covid' '... an aimless walk had to suffice'
Online therapy	'Online talking therapy' '[I accessed] online GP appointments, online CBT from NHS mental health services, online therapy (private)'
Financial worries	'Due to financial hardship, I had to stop therapy' 'I had to stop therapy as the company I worked for was 2 months behind on the payroll and I couldn't afford it anymore'

exercise were frequent in the sample as gyms were closed, and walks became more frequent to break up the monotony of being at home. Elements of lockdown restrictions were also mentioned, with jobs and universities moving online. Several participants discussed accessing ongoing therapy online, however, financial worries did impact some students and interfere with their ability to access therapy during the pandemic.

**Theme 3: mental health during covid-19 pandemic**

This theme was defined by the significant impact of COVID-19 on mental health of students (Figure 4).



**Figure 4.** A thematic map to show the themes and sub-themes that derive from the main theme Mental Health During Covid-19 Pandemic.

**Table 4.** Mental Health during COVID-19 Pandemic Themes and Example Quotes.

Themes	Example quotes
Depression	'I worry more about what people think about my life progress. I think I might be depressed' 'I became more depressed during the pandemic'
Anxiety	'I feel a lot more anxious about interacting with people and going out' 'It's amplified my pre-existing anxiety and panic attacks'
Temporary worsening	'I felt lonely during lockdown but fine now' 'It depends at which stage; my wellbeing has fluctuated over the last two years'
Improved mental health	'I feel I'm stronger for it. I'm more used to being alone with my thoughts' 'I found it much easier to cope in lockdown'
No mental health concerns	'I was working throughout the pandemic, so everything was quite normal and not so much of a change' [Do you feel the pandemic has affected your mental health?] 'No'

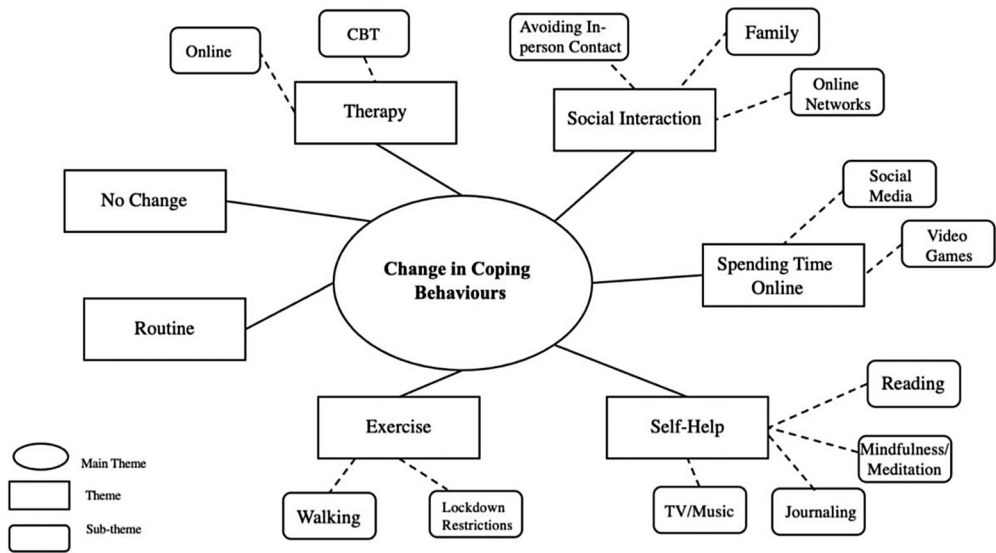
These themes explored several crucial ideas discussed by participants concerning how they felt the pandemic had impacted their mental health, as shown in Table 4. Depression was expected to be the most common concern of students during COVID-19, however, the theme of anxiety was significantly more prominent in the sample. Participants often described feelings of anxiety surrounding catching the virus, social interactions, their lives, and the state of the world going forward after the pandemic. While depression was mentioned by several participants, anxiety appeared to have been the most common mental health concern. Interestingly, the idea that mental health was worsened during the height of lockdown and the pandemic, however, these concerns had eased or returned to normal as restrictions were lifted was mentioned throughout the answers on several occasions.

Conversely, a smaller group of participants indicated that they felt that the pandemic and lockdown had improved their mental health. Some students discussed how it had given them time to reflect, take a step back from responsibilities and allow them to access the help they needed for any mental health concerns. A few participants suggested they believed the pandemic had not impacted their mental health at all.

#### **Theme 4: change in coping behaviours**

This theme was defined by the responses indicating changes in coping behaviours when comparing coping before the pandemic and during the pandemic (Figure 5).

Participants discussed a large range of experiences of the change in coping behaviours, shown in Table 5. Many participants discussed starting or continuing talking therapy or CBT online during the lockdown, with some answers suggesting this helped students cope better and learn more effective coping behaviours. Social interaction was a key theme to emerge from the data, with frequent mention of talking with family and friends which was also indicated as a common coping behaviour before COVID-19. Despite this, there was a move to online communication and relying on support networks outside of physically meeting in person due to restrictions, as well as spending more time with family compared to before. There was also a strong theme of self-help behaviours, with many participants discussing using mindfulness techniques, gratitude journaling and listening to podcasts as well as reading self-help books. Further, participants discussed a change in exercise due to the lockdown however it was still a popular coping behaviour. Some students discussed spending more time online, as well as the importance of keeping a routine.



**Figure 5.** A thematic map to show the themes and sub-themes that derive from the main theme Change in Coping Behaviours.

**Table 5.** Change in Coping Behaviours Themes and Example Quotes.

Themes	Example quotes
Social interaction	'Speaking to my support network' 'Communicating with friends/family'
Spending time online	'More time online' '... play video games on my Nintendo Switch'
Therapy	'Online talking therapy' 'Through starting therapy I've learnt more effective ways [of coping]'
Exercise	'I had to [change strategies] because I couldn't go to the gym, but I tried to walk, run and exercise' 'Go out for walks more frequently'
Self-help	'A lot more mindfulness focused/introspection as opposed to social' 'I began listening to podcasts regularly and audiobooks to gain a greater understanding of what my feelings were'
Routine	'Keeping a routine' 'I was forced to pause my busy lifestyle'
No change	'No, my [coping] strategies stayed the same' 'Not really as in that time I knew I wasn't the only one at home'

Despite many themes relating to the change in coping behaviours, most participants indicated they had not changed their coping behaviours at all because of the pandemic. This could be due to the quantitative findings from the BRCS which indicated the sample was predominantly low resilient copers. Many suggested they did not use any coping behaviours before the pandemic, and this did not change despite the impact of lockdown restrictions.

### Discussion and implications

The results of the research found that participants with higher levels of coping resiliency had experienced significantly lower levels of depression. Overall, levels of coping

resiliency were low in the student sample which was in line with emerging research that indicated coping resiliency is low in UK students as a result of the pandemic. While depression in the sample was relatively high, previous research suggested that levels of depression would be significantly more prevalent in student populations than the current research indicated. Previous research suggested that levels of depression would be significantly more prevalent in student populations than the current research indicated. In the current study, 41.2% of participants met the threshold for depression, and 58.8% of these participants had only mild depressive symptoms. These findings could differ from previous studies as much of the research around mental health has suggested that one of the causes of depression in university students is caused by leaving home and living independently for the first time (Ibrahim et al., 2013). Many students had to move home to their families due to lockdown during the pandemic, and had fewer day-to-day responsibilities to manage, which could have mitigated some of the pressures of transitioning into adulthood independently.

Participants discussed a wide range of lived experiences throughout the pandemic, and there appeared to be a noticeable change in coping behaviours post-COVID. Before the pandemic, students discussed the importance of social support from friends and family as well as exercise, self-care, and distraction techniques. As a result of the pandemic, the way participants accessed social support had significantly changed due to lockdown restrictions and social anxiety, with more participants using online support networks and relying on family rather than physical, in-person socialisation. Further, there was an increase in accessing online therapy and CBT, as well as utilising mindfulness and gratitude journaling. Doing exercise was a common coping mechanism, both pre-and post-lockdown, however, changes in exercise were frequent due to gyms closing and a move to daily walks.

Despite these findings, a large proportion of the responses indicated that no coping behaviours were utilised that they could recall, and from this emerged a narrative of the idea that coping behaviours were not necessarily needed before the pandemic as many participants felt their mental health was better. This may be more representative of a retrospective bias, as psychological theory indicates we all use coping mechanisms in response to stress, however often these can be unconscious and therefore not easily identified by participants (Cramer, 2001). These findings, therefore, do not necessarily indicate that coping behaviours were not used by participants, but rather that they were unaware of the ones they were potentially using to mitigate mental stress. Further qualitative analysis suggested that potential levels of depression were not as high due to the transient effect of the pandemic on mental health; several participants discussed a temporary worsening of mental health during the lockdown. However, these had eased when restrictions were lifted. This could indicate that the severity of mental health complaints during the pandemic may not be permanent. To investigate this further, future research could use repeated measures techniques to compare levels of depression and anxiety now, and in several years to assess whether these findings are temporary or prevailing.

Further analysis of the results suggested that participants were experiencing higher levels of anxiety and social isolation rather than depression being the primary mental health concern. Future research could repeat the current study with an anxiety measure rather than a depression measure to investigate whether these qualitative

findings would be replicated and supported with quantitative data. These findings suggest an important implication for early intervention and increased demand for mental health resources within universities. As depression and anxiety levels are currently high, especially in a post-pandemic context, universities are in a crucial position to increase mental health awareness and support for students. While higher education institutions may feel the pandemic has passed and is currently less relevant, present and incoming students will have been significantly impacted in their studies at school, college and within a university context. A recent report published by the SERU Consortium at University of California and University of Minnesota recommended an increase in funding for student counselling services, outreach programmes and well-being psychoeducation for all staff could drastically prevent students from falling into clinically significant levels of depression and anxiety post-pandemic (Chrikov et al., 2020).

A key consideration of these findings is how they can be used to inform schools and universities of the impact of coping behaviours on mental health. Emerging research by Ahorsu et al. (2021) assessed the effectiveness of peer-led mental health psychoeducation and intervention groups on university students in Hong Kong, and found that the participants of the groups felt more able to utilise help-seeking behaviour if they felt they were in distress. Participants also felt they were more equipped to use positive coping skills and strategies to support their peers, as well as themselves, during episodes of problematic mental health experiences. Further, the current findings suggest that coping resiliency may act as a protective factor against depression, and potentially anxiety, in individuals. Ensuring coping and resilience workshops are included from a young age in primary and secondary education could help strengthen resiliency in children, giving students a good foundation for coping as they transition into university and face significant periods of change and stress. Previous research has found that implementing resilience programmes in UK schools had a short-term reduction in symptoms of depression, which could suggest a more long-term compulsory roll out of resilience workshops and integration of psychoeducation into the curriculum throughout school and higher education could have a positive and preventative effect at an early intervention level (Challen et al., 2014). This could also help protect against the negative impact of other future events which may occur; if students had been taught ways to increase their coping resiliency pre-pandemic, the impact of COVID-19 on mental health may have been less significant.

A limitation of the current research is the gender of participants, with 76.25% of respondents being female. Research by Owens et al. (2022) indicated the mental health of females was significantly more impacted by the pandemic than males, suggesting the current research may be harder to generalise to the wider student population. Future research could consider recruiting more male and non-binary participants to investigate whether these findings would be replicated on a wider scale. Further, the current research focused on UK students but did not collect data on the ethnic background of participants. Repeating the procedure to analyse the ethnic information of participants could allow findings to be generalised more widely or illuminate differences which could occur in the sample. Further, the current research did not capture the university courses that participants belonged to. Previous research has indicated some difference in rates of depression based on university courses; one US study found that Arts and Humanities students were more likely to experience major depression than other



subjects, however there was no significant difference for other subjects including STEM (Ajinkya et al., 2016). Despite this finding, many other studies have failed to differentiate whether subject choice was related to mental health outcomes. This could be a limitation to explore in future research, as little is known about experiences during the pandemic.

In conclusion, the current research findings indicate that the COVID-19 pandemic has had a significant impact on the mental health of university students. This could help inform parents and universities to ensure they are aware of the potential risks of heightened anxiety, as well as depression, so as best to support students who may be struggling with mental health concerns at a higher rate than was experienced pre-COVID. Universities could adopt a more integrated approach to mental health support by ensuring that all staff are educated on warning signs and risks associated with declining mental health, and that all academic departments have a dedicated well-being support system. Integrating mental health support is closely aligned with other services offered by universities, such as career support services and academic support could encourage an open and collaborative environment with the wellbeing of students at the centre. Further, universities must increase resources and budget to tackle a rise in mental health concerns from students after the pandemic. Ensuring that counselling and support services are adequately staffed could increase timely access to support and allow students to receive help before their presenting problems become more significant. Employing more staff focused on well-being, and developing strong links with local services who can also support students may increase accessibility to students who need more immediate support or long-term care. This research provides a strong basis for future exploration into the impact of COVID-19 on mental health and coping behaviours which could help to strengthen the current findings and provide future directions to best support students during this unprecedented time.

## Disclosure statement

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