

Title: The psychological impact of COVID-19 on students and academics at a Higher Education Institution in the UK.

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Keywords: COVID-19, infection control, mental health, student, teacher

Abstract

Objective

This study investigates the psychological impact of COVID-19 on students and academics at a Higher Education Institution in the UK.

Design

We used critical reflective writing where ten students and ten lecturers wrote a short reflection (approximately 200 words) on their experience of the lockdown prior to the study. Secondly, transcriptions were gathered for analysis. Inductive Thematic Analysis was selected as the preferred method of investigation to identify, analyse, and report themes from the data set.

Main Outcome Measures

The specific study aims were: (a) To present an empirical investigation into the psychological impact of COVID-19 (b) To explore the interplay between social isolation and mental health and (c) To examine how the affected individuals understand their experiences.

Results

The health impact of COVID-19 included both physiological and mental health aspects and it reflected the importance of teacher and student psychological wellbeing for teaching and learning.

Conclusion

The paper highlights that there is a need for psycho-social crisis prevention and intervention models tailored to support students and academics psychological wellbeing, arguing that considerations be made to adjust expectations from students in relation to progression, and staff in relation to workload.

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Introduction

COVID-19 pandemic is reportedly caused by SARS-CoV-2 virus (Andersen et al., 2020). It took the scientific community, public health experts and governments by surprise especially with its ease of transmission, uncertainty of transmission and its strain on the NHS (Huang et al., 2020; Burke et al., 2020; WHO, 2020). Efforts to control transmission of the virus to save populations and reduce the strain on the NHS has included lock down of entire populations leading to restricted travel and socialising, the need for isolation and shielding especially for the elderly

population, frequent washing of hands and social distancing with the need for repeated/frequent testing. Whilst these actions have helped to mitigate the spread of the COVID-19, it is expected that they will undoubtedly have consequences for mental health and well-being in both the short term and long term, for example it is known that social isolation can lead to serious mental health problems (Hawkey & Capitanio, 2015). A recent cross-sectional study reported increased anxiety levels in healthcare professionals in the UK and the reasons for such increased anxiety was reported to be clinical and general uncertainty, concerns about social isolation and reduced usual support networks and problems with increased workload in the workplace, amongst other causes (Siddiqui et al., 2021). A scoping review on the physical and mental health impacts of COVID-19 on healthcare workers reported risk of physical and mental health in this population group though the risk factors seemed different and more related to care provision (for example working in a high-risk department which increases the chances of infection and thus anxiety and stress) (Shaukat, Ali and Razzak, 2020).

Whilst the reported studies were in healthcare professionals, it is likely that similarly, there will be substantial increases in anxiety and depression, substance misuse, loneliness, and other related mental health issues in the student and staff population especially for working staff who continued with business as usual in the face of national lockdown and other disease control measures. It is against this background that this study reports students and staff critical reflection on the impact of COVID-19 on mental health.

COVID-19, infection control measures and the impact

At the start of the pandemic, much of the research into the virus concentrated on its direct impact on the body with the aims of finding a vaccine for its prevention, effective treatment for its control or a cure (Vlessides, 2020). However, there is another aspect of its potential and real impact that also gained focus, which is its impact on mental health. Studies show that the virus is

very contagious with the ability to spread widely (CCDC Weekly, 2020; Lewis, 2020). In order to control the spread of the virus, people have had to change the way they behave and think and they have had to change what they spend time on and how they do things.

Consideration of the mode of transmission as well as the acknowledgement that the virus has the ability to spread widely (CCDC weekly, 2020; Lewis, 2020; Xiang et al., 2020; GOV.UK, 2020), and the uncertainty in its potential to mutate led to institution of control strategies including handwashing, social distancing, use of personal protective equipment, early identification and isolation of suspected and confirmed cases, shielding and track and trace (Xiang et al., 2020). In addition to these known infection control mechanisms, mass gatherings were banned and schools and universities were closed (Flaxman et al., 2020).

These strategies employed in the UK were also used in some other parts of the world (Xiang et al., 2020; GOV.UK, 2020). This has meant that individual freedom has been impacted as have businesses and the economy. In at least the UK in May 2020, the government published guidance on shielding and protecting people who are extremely vulnerable to COVID-19 (UK GOV., 2020). The guidance set out to clearly define who was extremely vulnerable, the need to stay at home and social distancing, handwashing and respiratory hygiene, who should be shielding and the support they would need for this, living with other people in shielding or isolation and the need to use personal protective equipment (PPE). NHS.

Whilst these infection control strategies have been effective in slowing the spread of the disease as the UK saw a reduction in rates of infection and mortality (Flaxman et al., 2020), the psychological impact of these infection control strategies cannot be ignored. In an extensive study (72,314 cases were investigated) looking into the differential impacts of the disease in the UK, it was found that people living in London and Scotland suffered worst deterioration of mental health compared to those living in England (excluding London) (Proto

& Quintaba-Domeque, 2020). Similar differential effect on mental health was also reported by Haque, Becares and Treloar (2020) though the focus of both investigations were on the BAME community and gender differences.

The acknowledgement of social isolation and loneliness is essential and paramount due to their potential detrimental impact on physical and mental health, which has been recognised for over two decades (Santini et al., 2020; Xiao, 2020). Social isolation and loneliness increases the risk of anxiety, depression, cognitive dysfunction, heart disease and mortality (Brooke & Jackson 2017). Brookes et al., (2020) review of the literature reported anxiety, stress, anger and confusion as the main psychological impact of quarantine in past epidemics such as the 2003 epidemic of SARS and the 2014 outbreak of Ebola. The stressors for these impacts were reported to be duration of quarantine, fears of infection, frustration and boredom, inadequate supplies and financial loss and uncertainty. It has been suggested that there is a need to recognise that people may be disproportionately affected psychologically by the requirements of social isolation due to COVID-19, because of the removal of social contacts, which may have occurred during grocery shopping, attending community groups and places of worship and other day-to-day activities (Kall et al., 2020).

The continuous spread of the epidemic, strict isolation measures and repeated lockdowns which often means closure of schools, colleges, and universities across the country is expected to influence the mental health of students and staff. Whilst it is recognised that individuals who have experienced public health emergencies for example patients who suffered from the disease, were cured and discharged from the hospital may still have varying degrees of stress disorders (Duan, 2020), much is not documented on the mental health of family and friends who are indirectly impacted by public health emergencies. These groups are however beginning to gain recognition for example there have been reports on the psychological impact of the epidemic on the general public, patients, medical staff, children,

and older people (Yang, 2020). There are however no detailed studies on the impact of COVID-19 on the mental health of students and staff in UK Universities, particularly for some staff and students who under the circumstances carried on with business as usual and attended lectures virtually when this was not possible physically. Also, it is agreed that mental health needs of patients with confirmed cases of COVID-19, patients with suspected infection, quarantined members and medical personal were poorly handled (Xiang et al., 2020), and it is even more of an issue for the mental health needs of those who have been indirectly affected by COVID-19 within which lies the student and staff population groups. Nobles and colleagues in their recent study (2020) found the at-risk groups to the potential impact of COVID-19 on mental health outcomes to include healthcare workers, children and parents, those with history of psychiatric illness, those who have lost family members amongst others. These groups are also reflected in the population groups of staff and students at many UK Higher Education Institutions. Students were particularly mentioned to be at risk of stress and anxiety. It is therefore paramount that full attention is given to the mental health needs of students and staff of Higher Education Institutions. To support this is the recent report analysing data from 17 Universities in the UK, which showed a year on year increase in staff access to counselling services and occupational health referrals (Morrish & Priaulx, 2020).

It is against this ideological background that this critical reflective study reports on the impact of COVID-19 on the Mental health of staff and students at a Higher Education Institution. The aim of this study was to investigate the psychological impact of COVID-19 on students and academics at a Higher Education Institution in the UK using critical reflective writing to explore the interplay between social isolation and mental health.

Methods

Design and analytic approach

Inductive Thematic Analysis (TA; Liebman (2020) was selected as the preferred method of investigation to identify, analyse, and report themes emergent from the data set. Considering its flexible yet profound strategy, Thematic Analysis was employed to extricate the surface of reality, allowing the research questions and the subjective experiences of participants to be addressed directly from the perspective of the individuals involved (Liebman (2020) Theoretically, the study had an idiographic aim which sought a sample size in which individual voices and experiences could be located and heard through intense analysis of each transcript. Twenty critical reflective reports provided enough scope for developing cross-case generalities.

Recruitment of participants and data collection

Data analysis followed the method for conducting inductive thematic analysis of textual data drawing on a constructionist perspective investigating how experiences of the lockdown and its impact are products of discourses or interactions in a group (webinar) (Liebman (2020).

For qualitative data collection, first we used critical reflective writing where students and lecturers wrote a short reflection (approximately 200 words) on their experience of the lockdown prior to the webinar. Critical reflective writing was chosen because it is an effective means for enabling people who have experienced difficult events to talk freely about their experiences. The method has been effectively used by other researchers (Liebmann, 2020). Secondly, transcriptions were gathered for analysis. There was a need for deep immersion in the data, which involved reading and re-reading the whole transcripts. This was done alongside sharing observations and preliminary analytical insights between the authors. After the identification of themes, the transcripts were reviewed again to select representative quotes for each theme. The transcripts were reviewed a final time for

additional supporting and disconfirming evidence of themes. Theme names were derived from the literature itself, but in some instances, were applied retrospectively. We identified the following themes: Difficulties, Frustration and stress; Impact on students' academic performance; Pressure and Coping strategies.

Procedure and ethical issues:

A total of twenty participants completed the reflective writing who were invited to participate through an advertisement placed on the University's Intranet page dedicated to both students and academics (Robinson, 2014). Respondents were all UK based higher education students and academics consisting of twelve females and eight males all aged between nineteen and fifty-six. Our sample size was influenced by both theoretical and practical considerations (Robinson, 2014, p.29). On practical level, our sample size was determined by the response rate from the advert. Theoretically, the study had an idiographic aim which sought a sample size in which individual voices and experiences could be located and heard through intense analysis of each transcript. Twenty critical reflective reports provided enough scope for developing cross-case generalities.

As advised by Eysenbach and Till (2001), informed consent was obtained from the participants, prior to taking part in the Webinar/study, via email in the form of an attached document. The participants were advised to take their time and read, fill in and return a consent form, via email. The participants were further asked to tick the relevant boxes, write their names and the date, and sign in the allotted space, to indicate that they had read and had understood the information and had consented to take part in the study which proceedings may be published. Since the researchers were not present when the participants read the consent forms to observe them, on the day of the study, we briefly revisited the issues in the information sheet and consent forms.

Along with the consent forms, the participants were also given information sheets with full details of the study. The information sheet stated that participation was entirely voluntary, that the participants were at liberty to withdraw from the study without having to give any reason for doing so, and that the participants were free not to answer any questions they felt uncomfortable with. The information sheet further outlined why the data was being collected, how it was going to be used and how it was going to be stored. Participants were also advised that attendance and participation would be taken as consent to use any discussions and proceedings. In addition, at the start of the study, participants were told that they were free to have breaks at any time.

To further ensure consent was absolute, the participants who responded to questions on the impact of the lockdown on their mental health were contacted to be sure that they were happy for their responses to be published. They were assured that any responses published will be anonymised. All participants who responded gave additional written consent via email.

As a means to secure anonymity and confidentiality, participants were identified by pseudonyms in all dissemination of findings. All electronic data were stored in password protected University computers used by the researchers. All paper forms are secured in locked cabinets in secured offices at the researchers' respective offices. Ethical vetting was approved from the University. The study was conducted in observance of the British Psychological Society (BPS) Code of Ethics and Conduct (2018). The collection of data was preceded by the submission of an ethical approval form to the University. Ultimately, the risk associated with potential emotional distress caused to the participants due to the sensitive nature of the topic was limited by following the protocols for dealing with 'sensitive phenomena' suggested by (McCosker, 2000).

Sample characteristics

In order to familiarise ourselves with the material we analysed and to present a clear picture for the reader regarding the participants and material, we produced a table which we attach below. The table offers some demographic details about the participants. This includes their estimated age, their ethnicity, their sex, the length of the critical reflective statement they gave and a short sample quote from each.

	Amy-Academic	Sandra-Academic	Jesse-Student	Mary-Academic	Stephen-student	Kim-Student	Abigail-student	Jayne-Student	Carla-Academic	Lorna-student	Ian-Academic	John-Student
Approximate age	Early 50s	Mid 20s	Early 30s	Early 40s	Mid 40s	Early 20s	Mid 30s	Mid 20s	Late 40s	Early 30s	Mid 50s	Early 30s
Ethnicity	White	White	White	Asian	black	White	Chinese	Black	White	Asian	Black	White
Sex	Female	Female	Female	Female	Male	Female	Female	female	female	Female	Male	Male
critical reflective statement length.	217	189	203	220	179	231	180	191	200	210	159	197
Short sample quote	<i>Otherwise, it's been really difficult to not be around people</i>	<i>My teenagers have found lockdown incredibly hard</i>	<i>I am pretty frustrated and more stressed because I have to be juggling everything is hard</i>	<i>The unknown aspect of the virus makes these moral questions difficult.</i>	<i>Without being with people and amazing colleagues at the University, I've lost my 'mojo' for work.</i>	<i>I had COVID-19, this is the worst thing I have been through in my whole life</i>	<i>I am devastated. I will get there though so lots of resilience going on!</i>	<i>You cannot replace the value of those pre-writing discussions with other students. Covid 19 really put my work down</i>	<i>I have felt the pressure to be shown to be productive the whole time and have</i>	<i>It has been difficult, scary and hectic with the studying with kids at home.</i>	<i>It's when I step back to think about wider, global, long-term implications that makes me feel strange.</i>	<i>During term time, I live in a private student accommodation, but I have moved home to be with my family for lockdown.</i>

	Dino-Academic	Sally-Academic	Ken-Student	Hilton-Academic	Mel-student	Gina-Student	Lance-Academic	Dave-Academic
Approximate age	Early 40s	Late 40s	Mid 30s	Late 40s	Late 20s	Early 20s	Early 50s	Late 20s
Ethnicity	White	White	White	Asian	black	White	Chinese	Black
Sex	Male	Female	Male	Male	Female	Female	Male	Male
critical reflective statement length.	149	219	200	150	188	191	166	188
Short sample quote	<i>There are many triggers in the workplace so there are some benefits in feeling more safe at home.</i>	<i>Getting up and going to work gives you a sense of purpose which is important. Lockdown is kind of stealing that.</i>	<i>I go through periods of feeling quite down or anxious.</i>	<i>Since lockdown, sleeping has been a bit of a struggle for me at times but work needs doing, so been keeping strong</i>	<i>Am really missing face to face interaction at uni</i>	<i>I miss my boyfriend, but well, what can you do under lock down.</i>	<i>Most of the time, I don't find lockdown too bad. I just try to get on with various small tasks within my life - work, TV, reading, talking to friends and family, etc</i>	<i>Work has been very different as there has been a change from being out and about at events to stuck behind a laptop every working day.</i>

Reflexive Summary

As researchers, we have tried to present the participants' accounts as accurate, fairly and disinterestedly as possible. The first author, who ran the study with one of the data collectors is female, a PhD holder with academic expertise in health care and quantitative research methods. The second author is male, a PhD holder with academic expertise in social psychology and qualitative research methods. Both researchers are full time university lecturers. The data collectors are both females involved in marketing/advertising for the University. Our analysis has been ratified by those who took part in our interviews. The analysis benefits from including different perspectives on the impact of the pandemic and results shed light on the experiences of higher education students and academics.

Results:

Themes:

Difficulties

Since COVID-19 was declared a pandemic by the World Health Organization, most of the world's population have been under strict lockdown. This has created many difficulties in the personal and social lives of many people across the globe. The difficulties prompted governments to take special actions in order to address the situation. It however looks like not much if not nothing has been addressed as regards the difficulties faced by University academics and students in the UK institutions.

Some respondents described their lock down experience as difficult. Amy's (a lecturer) quotation highlights the difficulties of working from home away from work mates. She put it this way:

Otherwise, it's been really difficult to not be around people. Also, the act of getting up and travelling to work gets you into a different frame of mind which is good when you are struggling, it gives you a sense of purpose which is important. Another thing I've struggled with is not having a clear end from work, I work in the kitchen with 4 kids in the background so it's difficult to switch off!

The language adopted by Amy underscores the difficulty of her experience of the infection control measures on her role as a member of the academic staff. The words struggled, difficult and the phrase 'very difficult' are at the centre of the construction of her narrative. This is enough indication that the psychological footprint of the lockdown on student and academic staff is likely to be more substantial than is probably thought because it seems being locked down at home in social isolation takes away '*the sense of purpose.*' In the process as it looks for the narrative, generating struggles.

Sandra (a lecturer) puts it more strongly:

My teenagers have found lockdown incredibly hard. They want and need their school, their friends and be with their teachers. As a family we accept that risk is part of life - we enjoy lots of country sports like sailing, shooting, and fishing but we can't do that now.

The children of this academic found the lock down experience 'incredibly hard'. Again, the narrative tone and the choice of words used to construct the experience speaks volumes on its own about the difficulty being described. This shows that complying and copying with the

infection control measures was an overwhelming and exhausting experience not only for academics and students but for their families as well. The adoption of the phrase '*incredibly hard*' to describe the lock down experience further indicates that it must have left them feeling drained and anxious or perhaps even both.

We argue that a comprehensive understanding of these difficulties experienced by academics and students can inform the development of targeted interventions to reduce the impact of lockdown and support them cope better.

Frustration and stress

It looks like the generalised pervading climate of uncertainty, triggered by the pandemic and the lockdown as an infection control measure led not only to development of coping strategies but caused frustration and stress for academics and students. The sudden increase in people in need of hospitalisation in the country and the dramatic impact on the country's national health services may have added its lot to the stress and frustration in general.

However, participants in this study had some specific things to share about their frustrations and stress; first, Jesse a student made the following remarks:

'I am pretty frustrated and more stressed because I have to look after children all the time as well; juggling everything is hard. It's hard to explain the situation to younger children'.

This narrative from Jesse can be understood as indicative of the fact that among a wide range of feelings experienced by parenting students was stress and frustration. Specifically, how childcare responsibilities during the lockdown combined with quarantine measures adopted during the COVID-19 pandemic, adversely affected their thoughts and emotions possibly causing depressive symptoms. Arguably negatively impacting on their academic work.

To take the analogy further, consider a statement made by Mary, an academic:

I'm nervous about the easing of lockdown restrictions; what is right and when? Obviously, I can only control what I can do but it's frustrating seeing others be more free about their activity; but then maybe it's fine for them to do that? The unknown aspect of the virus makes these moral questions difficult.

Mary's frustration was from a different source, seeing other people acting in irresponsible ways in the face of a real deadly disease. Evidently, from Mary's statement, this consistent exposure to a variety of stressors, mainly careless behaviours from seemingly ignorant people had adverse psychological impacts. It is very reasonable from these grounds to suspect 'a carryover' of this negative impact on the academics' functioning at work.

Likewise, Steven a student, agrees with narratives discussed already under this theme.

I find I go through periods of being ok and being incredibly grateful to be in work and healthy to periods of feeling quite down or anxious. What I've realised is that I love the people more than the job! So without being with people and all the friends and amazing colleagues I have at the University, I've lost my 'mojo' for work.

As already shown, the emergence of COVID-19 has brought great challenges to academics and students. For Steven, the frustration and stress led to periods of anxiety and feelings of being quite low. This was a direct consequence of the requirements of social isolation which separated him from work mates. It continues to appear like quarantine measures, can worsen depressive symptoms and adversely affect the thoughts, emotions, and everyday life functioning including working and studying. Steven's quote would not have emphasised it any better, he said, *I've lost my 'mojo' for work.*

Evidence in this theme indicates that lockdown related stress and frustrations had a strong adverse impact on academics and students mentally and emotionally thereby arguably negatively impacting on their academic work.

Impact on students' academic performance

The university sector was badly affected by COVID-19. Universities being classified as 'non-essential services' in the UK were thus closed down throughout the country and students had to study from home as per the requirements of infection control measures. Students expressed frustration at the impact of this on their academic work. The following remarks by Kim (a student) are noteworthy:

I had COVID-19, this is the worst thing I have been through in my whole life. I felt tired a lot and had a cough and had no sense of smell. Uni work was not a priority at that time, I needed to survive but two assignments were still waiting for me, I ended up having to do 2 assignments at the same time. No coffee meetings to discuss, thus not what any student want.

This quote highlights two critical factors that seem to have had a considerable impact on Kim's academic performance. First being physically unwell caused her to shift her priorities from her university work to survival. Secondly, the infection control measures meant that there were '*No coffee meetings to discuss, thus not what any student want*'. This is an indication that physical participation in knowledge exchange groups plays an important role in the quality of work that students produce. In addition, it is a further indication that infection control measures heightened the risk of students feeling isolated due to social distancing rules which appear to have consequently negatively impacted on student's performance.

Abigail, (a student) to some extent, shares similar views:

Actually, I had aggressive symptoms of Covid-19 so obviously that was horrible for me. Well I recovered now thankfully but I took a knock on effect from that obviously, feeling tired & low energy, keeping away from my very helpful and much needed colleagues, so I did not get a good grade for my last module so I have to retake it. I am devastated. I will get there though so lots of resilience going on!

Abigail directly links not getting a good grade and having to retake the module not only to being unwell but to being in social isolation which deprived her the opportunity to discuss her work with her friends. *'keeping away from my very helpful and much needed colleagues, so I did not get a good grade for my last module, so I have to retake it.'* It is clear from this quote that the shift from a face to face learning environment to completely online environment in response to the pandemic was not enough. It appears students could have done better with extra support in the absence of their 'much needed and helpful colleagues.'

Another student, Jayne constructed her narrative in a way that echoes similar views:

I had COVID-19. It was horrible, due to what I went through, the fear of death, lack of peace of mind and all the worrying, I didn't do well in my module, so I have to retake it. You cannot replace the value of those pre-writing discussions with other students. Covid 19 really put me down and my uni work was put down as well.

Interestingly, like Kim and Abigail, Jayne had a 'horrible' experience of COVID-19 which included the fear of dying and lack of peace of mind, however when it comes to failing the module she did not fully blame it on having COVID-19. She directly linked it to being deprived the opportunity to physically meet other students for discussions before writing her work. In her own words *'You cannot replace the value of those pre-writing discussions with other students.'* This kind of talking demonstrates once more the significance of

collaborative engagement in physical spaces between learners which was sadly taken away by the enforcement of infection control measures leading to poor performance by students.

We argue that it may be helpful for universities to consider interface versions that provides social cues to mitigate for feelings of isolation in online-learning environments. We further suggest that considerations be made to adjust expectations from students in relation to progression.

Pressure

Flexible studying and home working arrangements were probably seen as crucial means of bringing balance and other life interests for students and academics by UK universities during the lockdown period. Recent lockdown have been accompanied by a strong surge in the number of students and academics working from home. It however appears this move has led to a significant increase of pressure for students and academics. The quotes analysed under this theme associated studying from home and working from home during the lockdown with greater levels of pressure.

Carla (a lecturer) said the below:

I have felt the pressure to be shown to be working and be productive the whole time and have spent energy worrying about this which has led me to be exhausted at the end of the working week. I need to take more breaks throughout the day. I am however finding it easy enough to log off at the right time and not do extra hours, and switch off in evenings & weekends.

Carla's quote demonstrates mounting psychological pressure connected 'to be shown to be working and be productive'. The quote further indicate that the psychological pressure may possibly have implications for health because it gets her worried, causes her to spend energy which then leaves her exhausted. It appears like the transition from campus working to home

working was a potential moment for crisis for Carla and possibly other academics. Her quote indicates that while the University provided academics with the required equipment for working from home, they neglected to consider strategies for supporting academics cope with the ‘new pressure’ of the pandemic and infection control measures. This in turn caused pressure for Carla who despite being affected by complying with the lockdown measures still had to be ‘productive’.

A similar picture is painted by Lorna a student, who explained:

It has been difficult, scary and hectic with the studying kids at home and staying indoors for now. Sometimes what’s going on makes it hard to sleep.

The word ‘pressure’ is not used in the construction of this narrative. However, words and phrases that can be strongly associated with pressure like; ‘*hectic, scary, it’s been difficult, and hard*’ are used to describe Lorna’s ‘lockdown experience. This quote appears to indicate that in the face of uncertainty and change brought about by the pandemic and the infection control measures students were subjected to a lot of pressure. Possibly, as it looks from what Lorna said, pressure came not only from being socially isolated but in having to deal with their University work while bringing a balance on private life related issues such as caring for children.

On the basis and what has been highlighted in this theme, we argue that without interventions to cope with this kind of pressure, some students may possibly turn to unhealthy behaviours and less positive coping mechanisms such as alcohol and substances misuse which then can lead to the development of dependence.

Coping strategies

Probably a very crucial, but apparently overlooked issue is the psychological impact of COVID-19 on students and University lecturers. As this theme will demonstrate, from most of the respondents, there is a sense that people were disproportionately affected psychologically by the requirements of social isolation due to COVID-19, because of the removal of social contacts, which may have occurred in non-cohabiting intimate relationships, work place, during grocery shopping, attending community groups and places of worship and other day-to-day activities. In response to the 'new normal' brought about by the impact of lockdown and other infection control measures introduced to mitigate the spread of COVID-19 it appears people had to develop coping strategies.

First, consider the remarks from Ian, a lecturer:

'It's when I step back to think about wider, global, long-term implications that makes me feel strange. I've been avoiding Twitter much more than other social media as that is where these big conversations about how the government are responding to the pandemic, what's happening next, what new things are coming through, and I can only take this at certain points. Instagram & TikTok (I don't really use Facebook) are much more distracting from the pandemic so I enjoy them and are on them more at the moment'.

This quotation provides an example of coping strategies that Ian adopted, first avoidance, secondly intentional self-distraction. 'I've been avoiding Twitter... Instagram & TikTok (I don't really use Facebook) are much more distracting from the pandemic. Besides highlighting the point of coping strategies used by people during the pandemic, this kind of talking can be understood as an indication of the psychological impact and its consequences on people's mental health which could potentially be even more detrimental in the long run than the pandemic itself. It is logical on this basis to suggest; in this critical juncture, for

better dealing with these psychosocial issues there probably is a need for psycho-social crisis prevention and intervention models tailored to support students and lecturers.

Similarly, Mary (a lecturer) tells us:

'I am lucky to be receiving therapy through vitality our private health scheme at work and the skype therapy is really helping me to cope with my mental health difficulty and the impact this situation has on me personally. Also, my line manager has been really supportive, and we are using the Wellness Action Plan by MIND which helps us to keep a tab on my MHD'.

It looks like Mary was so badly affected by the compliance to forced home quarantine; the continuous spread of the epidemic and the strict isolation measures to an extent that she suffered unbearable psychological pressure. In response, she turned to therapy to help herself cope. *I am lucky to be receiving therapy through vitality our private health scheme at work and the skype therapy is really helping me to cope with my mental health difficulty and the impact this situation has on me personally.* This and the previous quote, make clear that in these unprecedented times people have been pressured and obliged to react by creating bridges to cope possibly because much support has been given to frontline healthcare workers and other health care professionals but not students and academics.

Furthermore, John (a student) had this to say

'During term time, I live in a private student accommodation, but I have moved home to be with my family for lockdown'.

This is another indication that as rapidly expanding mass hysteria connected to the nationwide lockdown so did the panic, anxiety and stress making people's lives harder, hence

the development of coping strategies. John had to move back to his family house as it seems he couldn't cope on his own.

As this theme has demonstrated, there is a sense that academics and students were indeed disproportionately affected psychologically by the requirements of social isolation due to COVID-19, because of the removal of social contacts. This paper further argues that in this critical juncture, for better dealing with these psychosocial issues there is a need for psychosocial crisis prevention and intervention models tailored to support students and academics.

Discussion:

This study aimed to explore the psychological impact of COVID-19 on students and staff at a Higher Education Institution in the UK. Students and staff were asked to report on perceived mental health impact of COVID-19 and its associated restrictions which included the lockdown, the need to social distance, wash hands, shield and isolate etc. Five main themes were identified from the study which included *difficulties* imposed by the lockdown with need to work from home, *frustration and stress* impacted by the need to juggle work as well as childcare responsibilities, *impact on students' academic performance* partly impacted by lack of social contacts, a feeling of *pressure* and development of *coping strategies*.

Stuijzand et al., (2020) demonstrated in their study that exposed healthcare professionals working during the pandemic are at heightened risk of mental health problems in the short and long term particularly psychological distress, depression, perceived stress which is similar to our findings in the student group. This is hardly surprising since many of our students are also healthcare professionals who had to juggle work commitments with their studies.

The study findings highlighted that the emergence of COVID-19 brought great challenges to academics and students with heterogeneous effects. The health impact of COVID-19 would seem much beyond the physiological impact but also mental health impact and it reflected the importance of teacher and student psychological wellbeing for teaching and learning. The current research's findings are supported by a study conducted in China which aimed at investigating the psychological impact of COVID-19 on college students which found that effects on daily life, delays in academic activities as well as economic effects were positively associated with anxiety symptoms in the students sampled (Cao et al., 2020).

The current study reveals perceived report of stress, frustration, anxiety and 'feeling low' of students due to numerous challenges imposed by the lockdown combined with quarantine measures adopted during the COVID-19 pandemic. Our findings are supported by literature where quarantined staff were significantly more likely to report anxiety, detachment from others, exhaustion and poor concentration, amongst others (Brooks et al., 2020). The stressors reported varied from stressors imposed by childcare challenges, to stressors imposed by irresponsible behaviour of the wider public. As discussed in Rajgopal (2010), it is increasingly being recognised that stressors in the workplace and perhaps during academic study (Callender et al., 2011) can lead to a range of physical illnesses for example headache, increased heart rate and blood pressure and lapse of memory. Importantly, it has been reported to lead to indecisiveness and deteriorating work performance (Brooks et al., 2020). A consequence of long-term stress has also been suggested to be burnout, where burnout is characterised by feelings of intense fatigue, a sense of isolation, loss of control and sleeplessness (WHO, 2005) which have all been reported in the current study. It continues to appear like quarantine measures, can worsen depressive symptoms and adversely affect the thoughts, emotions, and everyday life functioning including working and studying. As this study's quote emphasised "*I've lost my 'mojo' for work*". This in itself suggest emotional

exhaustion which has previously been reported in other studies as being a consequence of quarantine (Maunder et al., 2003).

The adoption of the phrase '*incredibly hard*' to describe the lock down experience further indicated that it must have left participants feeling drained and anxious or perhaps even both.

We argue that a comprehensive understanding of these difficulties experienced by academics and students can inform the development of targeted interventions to reduce the impact of lockdown and support them cope better.

Two critical impact on students' academic performance could be discerned from the data these being physical unwellness reflected in feelings of tiredness, low energy, fear of death and worry which caused a shift of priorities away from academic work and a feeling of social isolation (impact of the lockdown and social distancing) or the inability to participate in knowledge exchange groups where such participation would have positively impacted on students' performance. The data demonstrated the importance of collaborative engagement in physical spaces between learners which was prohibited by the lockdown. The data also reflected the effect perceived ill health may have on participants which is supported by recent study from Nobles et al., (2020) that perceived risk, living in COVID-19 hotspot areas and perceived low health status predisposes to greater risk of poorer mental health outcome.

Further impact gleaned from the data were physical health impact due to expenditure of energy which then resulted in exhaustion. Both students and academic staff reported feelings of a new kind of pressure which came not only from being socially isolated but in having to deal with University work whilst trying to balance work with private life issues such as childcare. It would seem that there may be many factors which act as stressors during a pandemic and these may be extensive and complex for example the interaction between difficulties with

childcare, frustration and the loss of purpose. Such issues can result in tipping of people over the edge as reported by Glazzard and Rose (2019).

The importance of teachers' wellbeing cannot be over-stated as is the wellbeing of students of any Higher Education Institution. A study in 2019 revealed that teachers wellbeing can affect their performance and their ability to teach in the classroom and key coping strategies reported by the same study were the opportunity to talk to family and friends whilst putting time limit on the amount of schoolwork done at home (Glazzard & Rose, 2019). Whilst the reported study was conducted in a primary school setting, similar would seem to be true for Higher Education Institutions. According to Callender et al., (2011), approximately 4% of students are seen by counsellors each year for a wide range of emotional and psychological difficulties. Teacher psychological wellbeing has also been linked with teachers' willingness or ability to help support students mental health challenges (Sisask et al., 2013; Harding et al., 2019).

Whilst many of the impacts discussed here would seem immediate as a result of the strict lockdown rules, what is not clear is how long some of these impacts may last or whether these would wane once the pandemic is over and the lockdown restrictions are lifted. This is particularly important because studies on previous pandemic reported long-term adverse mental health consequences due to the experience of being quarantined (Liu et al., 2012; McAlonan et al., 2007).

On a positive note, participants (mostly lecturers) found some coping mechanisms to help deal with the negative impact of the lockdown for example self-distraction, not following some social media website for example Instagram too closely, Skype therapy, support from management, access to online support programmes such as MIND, taking regular breaks within the working day and early log-off from work and weekend breaks.

We argue that it may be helpful for Universities to consider interface versions that provides social cues to mitigate for feelings of isolation in online-learning environments since a recent study shows that the strongest protective factor for depression is social connection (Massachusetts General Hospital, 2020). We further suggest that adjustments are needed in expectations from both students and academics in relation to workload. This may mean that much more flexibility is applied for student submission for example and that staff workload are carefully tailored to individual situational assessment.

We also argue that without interventions to cope with pressure, some students may possibly turn to unhealthy behaviours and less positive coping mechanisms such as alcohol and substance misuse which then can lead to the development of dependence.

We acknowledge that this is a small study and some of the points highlighted here would need to be further researched before concrete recommendations can be made. It is however useful to highlight some recommendations already proposed in the literature, for example that proposed by Callender et al., (2011) following the investigation into mental ill health in students, that students who are diagnosed with mental disorder be eligible for disability student allowance to cater for the extra costs that students may face as a result of the disability. Similar to the proposition by Stuijtzand et al., (2020), it would seem there is a need for psychosocial support to protect students and academics mental wellbeing (psychosocial crisis prevention and intervention models). This may take the form of screening to identify those who are most likely at risk of mental health problems, a workshop on mental first aid and psychoeducation for both staff and students.

The current study suggests that the lockdown imposed to control COVID-19 spread has had an impact on the mental health of staff and students at this UK Higher Education Institution and It further highlights the need to adjust expectations from students in relation to

progression and the need to reduce performance expectations on staff to reduce the pressure that they currently feel to avoid any reflected unintended consequences which may well linger into long term effects. We suggest the need to extend some of the coping strategies reported by lecturers to students for example the need for regular breaks and access to person-centred support services including mental wellbeing services. Social contacts via the internet could possibly have a buffer effect and thus reduce loneliness.

Further qualitative and then quantitative studies are currently underway to throw more light on the extent of the impact of COVID-19 on students to allow us to make appropriate recommendations to help address and mitigate any prolonged or adverse mental health effects.

Study Limitations

Our study had some limitations. As compared to face-to-face interview, self-reporting has its biases. The participants may understand and interpret the questions differently, which makes it difficult to correctly assess the accuracy of the responses. Given our small sample size (ten academic staff and ten students), this research may have been underpowered to fully highlight the psychological impact of COVID-19 infection control measures on students and academics in UK Higher Education Institutions. However, this should not invalidate our findings. Above all, research on this topic is scarce; therefore, the current study makes an important contribution to understanding the psychological impact of infection control measures on students and academics in UK Higher Education Institutions.

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Reference list

- Andersen, K.G., Rambaut, A., Lipkin, W.I., Holmes, E.C. and Garry, R.F. (2020). The Proximal Origin of SARS-CoV-2. *Nature Medicine*, 2020; DOI: [10.1038/s41591-020-0820-9](https://doi.org/10.1038/s41591-020-0820-9)
- Braun, V. and Clarke, V. (2006) Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3 (2), 7-101.
- British Psychology Society (2018). *Code of Ethics and Conduct*. Retrieved November 15, 2020 from <https://www.bps.org.uk/news-and-policy/bps-code-ethics-and-conduct>
- Brooke, J. and Jackson, D. (2017) Older people and COVID-19: Isolation, risk and ageism. *Journal of clinical nursing*. 29 (3), 2044–2046.
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N. and Rubin, G.J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*, 395, 912–20.
- Burke, R.M., Midgley, C.M., Dratch A., Fenstersheib, M., Haupt, T., Holshue, M., Ghinai, I.T., Jarashow, C., Lo J., McPherson, T.D., Rudman, S., Scott, S., Hall, A.J., Fry, A.M. and Rolfes, M.A. (2020). *Morbidity and Mortality Weekly Report* (MMWR). Centres for Disease Control and Prevention.
- Callender, J., Fagin, L., Jenkins, G., Lester, J., Smith, E., Baig, B., Blackwood, D., Day, R., Morriss, R. and Smith, D. (2011). *Mental Health of Students in Higher Education. College Report CR166, Royal College of Psychiatrists*. Retrieved October 30, 2020 from https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/college-reports/college-report-cr166.pdf?sfvrsn=d5fa2c24_2.
- Cao, W., Fang, Z., Hou, G., Hana, M., Xua, X., Donga, X. and Zhenga, J. (2020). The

Psychological Impact of the COVID-19 Epidemic on College Students in China. *Psychiatry Research* 2020;287:112934. doi: 10.1016/j.psychres.2020.112934.

China CDC weekly, (2020). Vital Surveillances: The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19)-China 2020. *Chinese Center for Disease Control and Prevention* 2(8):113-122.

Duan, L. (2020). Psychological Interventions for People Affected by the COVID-19 Epidemic. *The Lancet Psychiatry*, 4:300-302.

Eysenbach, G. and Till, J.E. (2001). Ethical issues in qualitative research on Internet Communities. *British Medical Journal*, 323:1103–1105

Flaxman, S., Mishra, S., Gandy, A., Juliette, H., Unwin, T., Coupland, H., Mellan, T. A., Zhu, H., Berah, T., Eaton, J. W., Guzman, P.N.P., Schmit, N., Cilloni, L., Ainslie, K.E.C., Baguelin, M., Blake, I., Boonyasiri, A., Boyd, O., Cattarino, L., Ciavarella, C., Cooper, L., Cucunubá, Z., Cuomo-Dannenburg, G., Dighe, A., Djaafara, B., Dorigatti, I., van Elsland, S., FitzJohn, R., Fu H., Gaythorpe, K., Geidelberg, L., Grassly, N., Green, W., Hallett, T., Hamlet, A., Hinsley, W., Jeffrey, B., Jorgensen, D., Knock, E., Laydon, D., Nedjati-Gilani, G., Nouvellet, P., Parag, K., Siveroni, I., Thompson, H., Verity, R., Volz, E., Walters, C., Wang, H., Wang, Y., Watson, O., Winskill, P., Xi, X., Whittaker, C., Walker, P.G.T., Ghani, A., Donnelly, C.A., Riley, S., Okell, L.C., Vollmer, M.A.C., Ferguson, N.M. and Bhatt, S. (2020). Report 13: *Estimating the Number of Infections and the Impact of Non-pharmaceutical Interventions on COVID-19 in 11 European countries. Imperial College COVID-19 Response Team*. Retrieved November 7, 2020 from <https://www.imperial.ac.uk/mrc-global-infectious-disease-analysis/covid-19/report-13-europe-npi-impact/>.

Glazzard, J. and Rose, A. (2019). *The Impact of Teacher Wellbeing and Mental Health on Pupil Progress in primary schools*. Retrieved November 1, 2020 from <https://www.leedsbeckett.ac.uk/-/media/files/schools/school-of-education/teacher-wellbeing--pupil-progress-research.pdf?la=en>.

Guerrero, N., Brito, J. M. and Cornejo, P. (2020). COVID-19. Transport of Respiratory Droplets in a Microclimatologic Urban Scenario. *MedRxiv: The Preprint for Health Sciences*. Retrieved November 15, 2020 from <https://www.medrxiv.org/content/10.1101/2020.04.17.20064394v1>.

Haque, Z., Becares, L. and Treloar, N. (2020). *Over-exposed and Under-protected: The Devastating Impact of COVID-19 on Black and Minority Ethnic Communities in Great Britain. The Runnymede Trust and ICM Survey*. Retrieved, October 30, from <https://www.runnymedetrust.org/uploads/Runnymede%20Covid19%20Survey%20report%20v2.pdf>

- Harding, S., Morris, R., Gunnella, D., Ford, T., Hollingworth, W., Tiling, K., Evans, R., Bell, S., Grey, J., Brockman, R., Campbell, R., Araya, R., Murphy, S. and Kidger, J. (2019). Is Teachers' Mental Health and Wellbeing Associated with Students' Mental Health and Wellbeing? *Journal of Affective Disorders*, 242(1), 180–187.
- Hawkey, L.C. and Capitanio, J.P. (2015). Perceived Social Isolation, Evolutionary Fitness and Health Outcomes: a lifespan approach. *Philosophical Transactions of the Royal Society B*, 370: 20140114. <http://dx.doi.org/10.1098/rstb.2014.0114>
- Heneghan, C., Brassey, J. and Jefferson, T. (2020). SARS-CoV-2 Viral Load and the Severity of Covid-19. *Centre for Evidence-Based Medicine, Nuffield Department of Primary Care Health Sciences, University of Oxford*. Retrieved, November 15, 2020 from: <https://www.cebm.net/covid-19/sars-cov-2-viral-load-and-the-severity-of-covid-19/>
- Käll, A., Jägholm, S., Hesser, H., Andersson, F., Mathaldi, A., Norkvist, T., ...and Andersson G. (2020). Internet-based Cognitive Behavior Therapy for Loneliness: A pilot randomized controlled trial. *Behavior Therapy*, 51 (4) 54-68.
- Lewis, D. (2020). *Is the Coronavirus Airborne? Experts can't agree*. *Nature*. 580: 175. DOI:10.1038/d41586-020-00974-w.
- Liebmann, L.L. (2020). When culture talks: honor as a post hoc addition in migrant women's accounts of violence. *Communication and Critical/Cultural Studies*, 17(1), 38-55.
- Liu, X., Kakade, M., Fuller, C.J., Fan, B., Fang, Y., Kong, J., Guan, Z. and Wu, P. (2012). Depression after exposure to stressful events: lessons learned from the severe acute respiratory syndrome epidemic. *Comprehensive psychiatry*, 53(1), 15–23.
- Massachusetts General Hospital (2020). *Social connection is the strongest protective factor for depression*. Retrieved November 12, 2020 from www.sciencedaily.com/releases/2020/08/200814131007.htm
- Maunder, R., Hunter, J., Vincent, L., Bennett, J., Peladeau, N., Leszcz, M., Sadavoy, J., Verhaeghe, L.M., Steinberg, R. and Mazzulli, T. (2003). The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *Canadian Medical Association Journal*, 168 (10), 1245-51.
- McAlonan, G.M., Lee, A.M., Cheung, V., Cheung, C., Tsang, K.W., Sham, P.C., Chua, S.E and Wong, J.G.W.S. (2007). Immediate and Sustained Psychological Impact of an Emerging Infectious Disease Outbreak on Health Care Workers. *The Canadian Journal of Psychiatry* 2007; 52(4):241–7.
- McCosker, J. (2000). Undertaking Sensitive Research: Issues and Strategies for Meeting the Safety Needs of All Participants. *Qualitative Social research*, 1 2 (1), 234-242.

- Morrish, L. and Priaulx, N. (2020). Pressure Vessels II: An update on Mental Health Among Higher Education Staff in the UK. *Higher Education Policy Institute Policy Note 23*. Retrieved November 2015, from <https://www.hepi.ac.uk/wpcontent/uploads/2020/04/Pressure-Vessels-II.pdf>
- Nobles, J., Martin, F., Dawson, S., Moran, P. and Savovic, J. (2020). The Potential Impact of COVID-19 on Mental Health Outcomes and the Implications for Service Solutions. *Applied Research collaboration*. 4 (5) 1-36.
- Proto, E. and Quintana-Domeque, C. (2020). Covid-19 and Mental Health Deterioration among BAME Groups in the UK. *Health, Education, and Welfare*. 4 (9) 2020-054.
- Rajgopal, T. (2010). Mental Well-being at the Workplace. *Indian Journal of Occupational and Environmental Medicine*, 14(3), 63–65. doi: 10.4103/0019-5278.75691: 10.4103/0019-5278.75691
- Santini, Z., Jose, P., Cornwell, E., Koyanagi, A., Nielsen, L., Hinrichsen, C., ... and Koushede, V. (2020). Social disconnectedness, perceived isolation, and symptoms of depression and anxiety among older Americans (NSHAP): A longitudinal mediation analysis. *Lancet Public Health*, 5 (5) 62–70.
- Shaukat, N., Ali, M.S. and Razzak, J. (2020). Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review. *International Journal of Emergency Medicine*, 13 (40), 1-8
- Siddiqui, I., Aurelio, M., Gupta, A., Blythe, J. and Khanji, M.Y. (2021). COVID-19: Causes of anxiety and wellbeing support needs of healthcare professionals in the UK: A cross-sectional survey. *Clinical Medicine*, 21 (1), 66–72
- Sisask, M., Värnik, P., Värnik, A., Apter, A., Balazs, J., Balint, M., Bobes, J., Brunner, R., Corcoran, P., Cosman, D., Feldman, D., Haring, C., Kahn, J-P., Postuvan, V., Tubiana, A., Sarchiapone, M., Wasseman, C., Carli, V., Hoven, C.W. and Wasseman, D. (2013). Teacher Satisfaction with School and Psychological Well-being Affects Their Readiness to Help Children with Mental Health Problems. *Health Education Journal*, 73(4), 382–393
- Stuijzand, S., Deforges, C., Sandoz, V., Sajin, C-T., Jaques, C., Elmers, J. and Horsch, A. (2020). Psychological impact of an epidemic/pandemic on the mental health of healthcare professionals: a rapid review. *BMC Public Health*, 20 (1230), 1-18
- UK GOV. (2020). *Guidance on shielding and protecting people who are clinically extremely vulnerable from COVID-19*. Retrieved November 15, 2020 from <https://www.gov.uk/government/publications/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19>

- Vlessides, M. (2020). *COVID-19 and Psychosis: Is There a Link?* – *Medscape*. Retrieved November 15, 2020 from <https://www.medscape.com/viewarticle/930224>.
- WHO (2020). *Modes of transmission of virus causing COVID-19: implications for IPC precaution recommendations*. Retrieved November 15, 2020 from <https://www.who.int/news-room/commentaries/detail/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>.
- WHO (2005). *Mental health policies and programs in the workplace*. Retrieved November 15, 2020 from https://www.who.int/mental_health/policy/services/essentialpackage1v13/en/ .
- Xiang, Y-T., Yang, Y., Li, W., Zhang, L., Zhnag Q., Cheung, T. and Ng, C.H. (2020). Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *The Lancet Psychiatry*, 7 (3), 228-229. [http://doi.org/10.1016/S2215-0366\(20\)30046-8](http://doi.org/10.1016/S2215-0366(20)30046-8).
- Xiao, G. (2020). A novel approach of consultation on 2019 novel coronavirus (COVID-19)-Related psychological and mental problems: structured letter therapy. *Psychiatry Investigation*, 17 (7) 175-176.
- Yang, W. (2020). Mental health services for older adults in China during the COVID-19 outbreak *Lancet. Psychiatry*, 20 (13) 30079-30090.
- Zhou, J., Otter, J., Price, J.R., Cimpeanu, C., Garcia, D.M., Kinnoss, J., Boshier, P.R., Mason, S., Bolt, Frances., Holmes, A. H. and Barclay, W.S (2020). *Investigating SARS-CoV-2 surface and air contamination in an acute healthcare setting during the peak of the COVID-19 pandemic in London*. doi: 10.1093/cid/ciaa905. Epub ahead of print. PMID: 32634826; PMCID: PMC7454437.