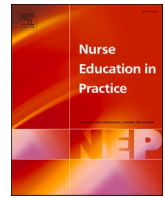




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



## Life during lockdown: Coping strategies used by preregistration nursing students during COVID-19

Lorna Moxham<sup>a,c,\*</sup>, Ritin Fernandez<sup>a,b,c</sup>, Heidi Lord<sup>b</sup>, Elizabeth Halcomb<sup>a,c</sup>, Rebekkah Middleton<sup>a</sup>

<sup>a</sup> School of Nursing, Faculty of Science Medicine and Health, University of Wollongong, Northfields Avenue, Wollongong, NSW 2522, Australia

<sup>b</sup> Centre for Research in Nursing and Health, St George Hospital, South Street, Kogarah NSW 2217, Australia

<sup>c</sup> Illawarra Health and Medical Research Institute, Northfields Avenue, Wollongong, NSW 2522, Australia

### ARTICLE INFO

#### Keywords:

Nursing students  
Coping strategies  
COVID-19  
Pandemic  
Qualitative

### ABSTRACT

**Aim:** To explore the coping strategies used by Australian preregistration nursing students during the COVID-19 pandemic 'lockdown' period.

**Background:** COVID-19 has had a significant impact on preregistration nursing students, both physically and psychologically. As campuses closed and online learning commenced, clinical placement access was reduced, with heightened concern about personal and family safety. As such, nursing students were forced to adopt coping strategies to manage their self and the environment.

**Design:** A descriptive qualitative study.

**Methods:** One hundred and fifty-five preregistration nursing students enrolled at a regional Australian university completed a self-administered online survey.

**Results:** Overwhelmingly, student responses revealed that staying connected was the key coping strategy to ensure emotional and mental health wellbeing. Heightened vigilance in infection control measures was also evident, personally and for others. Routines, including exercise, facilitated physical and mental wellbeing. Overall, coping strategies identified by nursing students demonstrated applied resilience during the isolation period.

**Conclusions:** Understanding the adaptive coping strategies used by nursing students can enable nurse academics to understand how to best provide support. This study emphasises the importance of recognising that not all students are able to adapt and 'cope' without supports in place. Future studies should investigate the longer-term impact of COVID-19 within the broader preregistration nursing experience and how this might impact nursing students' future careers.

### 1. Introduction

The Chinese Centre for Disease Control and Prevention first identified the novel coronavirus, Corona Virus Disease (CVD)-19, in January 2020 (Ashokka et al., 2020). By February 2020, Australia was reporting cases of COVID-19. The spread of the virus was so rapid that by 11 March 2020 the World Health Organization proclaimed a worldwide pandemic. For Australia, the initial peak of case numbers was seen during March 2020 (COVID-19 National Incident Room Surveillance Team, 2020). The impact of a respiratory pandemic, such as COVID-19, is not only related

to the enormous death toll from the virus, but also the psychological sequelae of the pandemic (Cao et al., 2020). For University students, who may be experiencing varying degrees of anxiety, hopelessness and depression as a consequence of their studies (Cassady et al., 2019; Oyekcin et al., 2017), the pandemic has brought about a series of changed conditions that serve to potentially compound their stressors.

As the COVID-19 pandemic swept across the world, countries took a range of actions to reduce its transmission. The principles of social distancing and isolation were used to minimise community transmission. In countries like Australia, this translated to the closure of

\* Corresponding author at: School of Nursing, Faculty of Science Medicine and Health, University of Wollongong, Northfields Avenue, Wollongong, NSW, 2522, Australia.

E-mail address: [lmoxham@uow.edu.au](mailto:lmoxham@uow.edu.au) (L. Moxham).

<sup>1</sup> Twitter: @LornaMoxham.

<https://doi.org/10.1016/j.nepr.2022.103388>

Received 24 June 2020; Received in revised form 4 May 2021; Accepted 21 June 2022

Available online 23 June 2022

1471-5953/© 2022 Elsevier Ltd. All rights reserved.

schools, workplaces and businesses, as people were mandated to stay at home unless they were an essential worker, or for health and food sourcing reasons (COVID-19 National Incident Room Surveillance Team, 2020). This alteration to the usual freedoms of society created significant stress and anxiety in many people. Parents were forced to home school their children, people were unable to visit family, friends or older people living in residential care facilities and many jobs were lost, leaving people with reduced income. The depth of the psychological impact is perhaps best characterised by the panic buying of toilet paper and long-life foods seen in Australia and internationally (COVID-19 National Incident Room Surveillance Team, 2020).

For university students, most tertiary institutions closed or ceased face-to-face classes and students had to pivot their study routines and styles with a sudden shift to online learning (Dewart et al., 2020). Moving learning online so rapidly isolated students from both their teachers and peers, potentially compounding psychological impacts of the pandemic. Additionally, for those from lower socio-economic groups or in poorly resourced environments, for example some rural areas in Australia with limited or no internet following significant recent bush-fire damage to communication towers, access to the resources required for online learning could be problematic (Crawford et al., 2020). Physical space in homes to study, along with potential competition for network access with other family/friends studying or working at home, were real issues that occurred suddenly for many, disrupting study patterns (Aristovnik et al., 2020). Given the speed at which the pandemic unfolded, many changes to higher education were undertaken rapidly, with institutions and staff doing the best that they could with limited time and resources. For students, these changes were occurring concurrently with reductions in part-time and casual work, making University fees and living expenses a further source of stress (Cao et al., 2020). This may be most apparent in students who had moved away from home to attend University and so lacked local family support.

During pandemics there is significant impact on preregistration health professional students (Patil and Yan, 2003; Sherbino and Atzema, 2004), such as nursing students, beyond their on-campus coursework. Clinical practicum placements have implications not only for student well-being but also their progression through a course that mandates compulsory components. Many clinical placements were reduced as health services became focused on managing a surge in pandemic presentations. In contrast, other placements failed to provide opportunities for learning as services were significantly restricted due to the pandemic. In some countries, like the United Kingdom, nursing students were offered the option of undertaking extended paid placements, or temporarily moving into theory only education (<https://councilofdeans.org.uk/category/policy/x-covid19/page/3/>). Of importance is the consideration that students may be concerned about their personal or family safety due to risks of exposure to the virus during placements (Dewart et al., 2020). Additionally, the pandemic may also serve to heighten the perception of the risks of employment as a health care professional. This may compound stress as the nursing student re-evaluates their life priorities and career direction. Epidemics and pandemics clearly elicit diverse emotional responses with psychological impacts varying (Minihan et al., 2020; Restubog et al., 2020; Fernandez et al., 2020). These impacts are likely to have both short- and long-term consequences. Understanding the experiences of preregistration nursing students can assist in identifying helpful coping strategies that in-turn can inform the development of future support services. Adopting coping strategies that successfully assist students to manage stressful situations can in turn reduce their negative emotions (de la Fuente et al., 2020). This aim of this study was to identify the coping strategies that nursing students used during the COVID-19 pandemic 'lockdown' period.

## 2. Methods

### 2.1. Design

This descriptive qualitative study design is part of a larger study undertaken using a prospective cross-sectional design. The survey used in the larger study sought a range of information from nursing students about their wellbeing during the COVID-19 pandemic to provide insight into supporting them further. As part of the questionnaire, nursing students were asked to specifically write any comments on strategies they were currently using to cope during the COVID-19 pandemic. It is these data that form the basis of this paper.

### 2.2. Ethics

This study was approved by the University of Wollongong Human Research Ethics Committee (Approval No. 2020/156). The researchers considered potential anxiety and/or stress issues that may be triggered by participating in the study. Language used in the participant information sheet (PIS) and throughout the questionnaire was clear in outlining experience and perception to be individual with no 'right' or 'wrong' responses. Participants were provided with information about university and community support services should they require assistance.

### 2.3. Participants

Participants were a convenience sample of nursing students enrolled in the Bachelor of Nursing (BN) program across six campuses at a regional Australian university during the COVID-19 pandemic.

### 2.4. Trustworthiness

Consideration and application of Lincoln and Guba's (1986) criteria to establish trustworthiness occurred. The participants' responses were unaltered, a clear audit trail was established and researcher reflexivity throughout the research process occurred.

### 2.5. Data collection

A self-administered questionnaire was distributed to 1357 nursing students using a common portal and a SurveyMonkey link. The survey was open between 13 April and 18 May 2020, during what was considered the 'lockdown' period in Australia. This period marked all Australian citizens 'staying at home' except for essential circumstances and 'practicing social distancing'. Completion of the survey was considered as implied consent. As part of the survey, nursing students were asked to provide an open-ended comment on the strategies that they were using to 'cope' during the COVID-19 pandemic. It is these data that inform this paper. A detailed description of the quantitative aspects of the survey is reported elsewhere (Authors own).

### 2.6. Data analysis

Survey data were exported into the SPSS Version 28.0 directly from Survey Monkey and the qualitative responses were extracted into a Microsoft Excel spreadsheet. The six-step inductive thematic analysis technique that Braun and Clarke (2006) developed was used for data analysis. Multiple readings of transcripts were undertaken. Open codes were generated in the first instance with these codes being highlighted and then extracted for further interrogation and confirmation by research team members. Codes were then grouped together and an identifying description applied which assisted with the development of themes. The themes were discussed by the research team until consensus regarding the final themes was reached.

### 3. Results

A total of 156 nursing students (140 female and 16 male) provided qualitative comments. The mean age of the respondents was 28.3 years ( $\pm 9.8$  years) and most ( $n = 146$ ; 92.4 %) were studying full time, 75.8 % ( $n = 119$ ) of respondents were employed in either a full-time, part-time or casual position and 71.5 % ( $n = 113$ ) were living with their family. Most ( $n = 145$ ; 91.8 %) of the respondents were domestic students and 31.6 % were undertaking their final year of study (Table 1). Seven themes were identified from the data analysis. These themes demonstrated the various coping strategies participants employed during the Australian lockdown period in the COVID-19 pandemic.

The first theme identified was *Staying Connected*. This coping strategy was by far the most common that participants identified. *Staying Connected* was particularly important to participants and involved them regularly contacting their family, friends and peers whilst they were socially isolated. Overwhelmingly, participants described that *Staying Connected* was crucial to maintain emotional wellbeing and their mental health. Participants's provided numerous comments which illustrated they stayed in touch with others using social media and other means:

*"I keep in contact with friends through social media" (Participant 10)*

*"Ensuring I get in contact with friends and family via Facebook messenger calls, zoom or text message" (Participant 23)*

*"Keeping in touch with friends over social media" (Participant 124)*

*"Messaging my friends" (Participants 140 and 85)*

*"Video calls with family and friends" (Participant 62)*

*"FaceTime to interact with friends" (Participant 144)*

The second theme, *Talking about Mental Health Effects*, although sharing aspects within the first theme around social connection, was identified as an independent theme. Participants identified that talking to people specifically about the situation that COVID-19 social isolation had created, was a useful coping strategy.

Responses indicated that *Talking about Mental Health Effects* included them speaking about all manner of things such as hobbies, family matters and university work. Of interest, the stigma that surrounds mental health or negative perceptions associated with not coping, did not stop

them talking overtly about their mental health. Participants described how they openly spoke to family and friends about how they were feeling and what the lockdown situation was doing to their mental health. Comments such as: *"open communication about my mental health with my loved one as we are not finding it easy" (Participant 28)* were provided as a coping strategy. Additionally, participants wanted to talk to others and check if their family and friends were coping. Asking how other people were managing, contributed to their own ways of coping. One participant described that they: *"chat to my daughter to see how she is coping and I have increased my contact with my brother in the Philippines to ensure he is coping in isolation" (Participant 12)*.

The third theme identified was *Protecting Self and Others*. Participants in this study were enrolled at a university that did not offer a choice about attending clinical placements. Continued attendance was mandatory. Thus, several participants were currently on clinical placement and some were also working as assistants in nursing and in other health-related jobs. *Protecting Self and Others* from COVID-19 infection was evident in strategies outlined, such as Participant 54 saying that: *"to protect my family as soon as I arrive home I take a shower. I don't let my children get close to me to protect them"*. In addition, many described having to go to the shops to collect essential household items. To ensure the participants could *Protect Self and Others*, strategies such as: *"only going to shops once a week" (Participant 107)* and *"staying at home as much as possible" (Participant 62)* were employed. Participants reported that engaging with patients and members of the public raised awareness of the risk of contracting COVID-19 and so in an effort to *Protect Self and Others* strategies of: *"being cautious at work and constantly washing my hands" (Participant 129)* and *"remain(ing) vigilant with hand hygiene and [being] overly aware of surroundings" (Participant 77)* were noted. Participants spoke about increased vigilance with infection control measures such as extra hand washing: *"regular hand washing and social distancing" (Participant 3)*, *"hand sanitizing frequently" (Participant 102)*, and an acute awareness of social distancing *"isolating" (Participant 17)*, *"infection control isolation" (Participant 91)*, *"stay home stay safe" (Participant 41)*, wearing masks and showering the moment they entered their home, especially if they had come from clinical placements or work. Some participants appeared to be particularly concerned about the risk of infection for their family, for example: *"I've registered to home school my son so he can stay out of public environments as much as possible" (Participant 87)*.

*Exercise* was the fourth theme identified. A large proportion ( $n = 68$ ) of participants reported that their coping strategies involved physical activity, which they mostly termed *"exercise"*. They described exercise as benefiting both their physical and mental health. Walking more, especially if they had a dog, was a coping strategy frequently identified: *"walking the dog more, riding bicycle more often" (Participant 2)*. The other major form of physical activity that participants identified was *"cycling regularly" (Participant 113)*. Participants listed a range of activities that facilitated them coping with the impact of the pandemic, including: *"walking, bike riding, ping pong" (Participant 77)*, *"going for long walks" (Participant 131)*, *"hiking and being in nature" (Participant 137)*, *"a daily walk" (Participant 57)*, *"running/ walking around the block" (Participant 50)* and *"fitting in exercise 3 times a week to balance out my sedentary activities" (Participant 148)*.

The fifth theme of *Creating a Routine* was noted as an important coping strategy by many participants. The notion of *Creating a Routine* was described as important in establishing a sense of purpose through routine, enabling them to set and achieve goals and provide structure during a time when, by and large, people were: *"left to their own devices at home" (Participant 20)*. Participant 22 noted that *"adopting a daily routine and setting achievable goals"* was a key strategy in staying busy and keeping a sense of normality while Participant 59 noted that: *"sticking to a daily schedule helps me feel a sense of accomplishment"*. Others reported that: *"making lists" (Participant 91)* and *"creating a schedule of activities/commitments" (Participant 152)* were helpful coping strategies.

**Table 1**  
Participant demographics.

	n (%)
<b>Gender</b>	
Female	140 (89.2)
Male	16 (10.2)
<b>Employment status</b>	
Full-time	17 (10.8)
Part-time	43 (27.4)
Casual	59 (37.6)
Not employed	38 (24.2)
<b>Current living arrangements</b>	
I live in a share house	9 (5.7)
I live on my own	8 (5.1)
I live with my partner	25 (15.8)
I live with my family	113 (71.5)
I live with a friend	1 (0.6)
I live in university accommodation	2 (1.3)
<b>Enrolled to study</b>	
Full-time	146 (92.4)
Part-time	12 (7.6)
<b>Student type</b>	
Domestic student	145 (91.8)
International student	13 (8.2)
<b>Year of study currently enrolled</b>	
1st Year	51 (32.3)
2nd Year	57 (36.1)
3rd Year	50 (31.6)

*Avoiding TV News and Social Media* about COVID-19 was a theme that many identified as a strategy to stay well. Participants spoke about the battery of information that was provided and how it was often negative. To cope with information overload, participants tried to “not watch too much TV” (Participant 47), specifically they limited the “amount of news I watch” (Participant 14), “limit news time to an hour in the morning” (Participant 109), “watching only one news program per day” (Participant 92), “very rarely watch the news” (Participant 63) and “ignoring the news avoiding anything COVID related” (Participant 56). Participants listed coping strategies around *Avoiding TV news and Social Media* as, “avoid watching or reading too much about it” (Participant 89), “definitely reducing the amount of time I spend on social media and news sites as there is an overwhelming amount of negative information out there” (Participant 30), “staying in your own little bubble and not watching or reading news articles relating to COVID helps to distract you from everything that is happening in the world” (Participant 11).

The seventh theme that was identified was *Feeling Overwhelmed*. This theme recognizes that not all participants had identified and enacted coping strategies and felt compelled to say so. It is important to note that numerous participants (n = 13) overtly commented that they were not coping: “I am not coping, I used to go to the gym but now it is closed” (Participant 33). These participants described that they did not have any strategies to cope “trying to manage my uni work and the kids has been a struggle for me” (Participant 98) and they were “trying to stay motivated to study but it’s been hard to focus” (Participant 85). Participants indicated that they were *Feeling Overwhelmed*, “finding it difficult and not easy with the university workload” (Participant 19), “the workload is excessive and unmanageable with life work and uni [university]” (Participant 105), “workload is massive, I feel constantly behind” (Participant 60).

#### 4. Discussion

The COVID-19 pandemic and its associated restrictions has placed substantial additional psychological stress on nursing students (Usher et al., 2020). The results of this study reveal important insights into the coping strategies used by preregistration nursing students at a large regional university in Australia and it the first study to explore the coping strategies used by nursing students during the COVID-19 pandemic lockdown period in Australia to the best of our knowledge. This knowledge is important to inform strategies to support nursing students in future pandemics or in times of unexpected crisis, including having a plan or program in place to safeguard their mental health and ensuring that nursing students food, shelter and financial needs are able to be met. Ensuring that preregistration health professional students continue and succeed in their studies at these times is vital to maintain the health workforce.

The challenges of social distancing on educational delivery as well as the effect on their personal and professional lives, required nursing students to employ emotional regulation strategies to cope with the psychological adjustment required during the COVID-19 pandemic. Despite these challenges, our study demonstrated that most of the nursing students displayed resilience, with the ability to adopt positive coping strategies. The most common reported coping strategy used by participants in this study was social support. Staying connected with peers, family and friends enabled students to feel connected and less socially isolated. These results are consistent with the broader literature around university students. One study conducted on college students coping strategies during the SARS outbreak, found that seeking social support was a frequently used strategy that was positively associated with increased life satisfaction and less psychological stress (Main et al., 2011). Li and Peng (2020) confirmed the notion that social support used as a coping strategy lowered anxiety levels in Chinese university students. Nursing students in our study reportedly used social media as a way of staying connected, however, importantly, 71.5 % of participants lived with their family, consequently enabling staying connected to family an easy coping strategy for this group.

While there is often stigma associated with mental health (Moxham et al., 2016) and discussing mental wellbeing (Simmons et al., 2017), nursing students in our study actively conversed about the mental health effects that the COVID-19 pandemic and restrictions had on them. This coping strategy proved useful for nursing students, with many openly communicating with peers and family about the effects of social isolation on their mental wellbeing. Managing stressful situations is common for nursing students generally without the added pressure of COVID-19 (Kochuvilayil, Fernandez, Moxham, Lord, Alomari, Hunt, Middleton & Halcomb, 2020). Evidence in the literature demonstrates that coping strategies that address the stressor are effective at lowering stress levels in nursing students (Hirsch et al., 2015). Consequently, preregistration nursing students in our study benefited by talking about the mental health stress that social distancing measures due to COVID-19 had created. Creating opportunities for open discussions about mental health in a supported environment has potential benefits for students in future pandemics and should be considered within all preregistration nursing programs.

Preregistration nursing students in this study found that protecting themselves and others was also an effective coping strategy. Included in this approach was vigilance with infection control measures in the workplace, in the community and at home, as well as ensuring that family and peers felt supported. This is in contrast to a study on nursing students during the Middle East Respiratory Syndrome (MERS) outbreak in Korea, where preventive behaviours such as hand washing were considerably low as a coping strategy (Kim and Choi, 2016). Perhaps this could be associated with less widespread mass media campaigns regarding preventative behaviours and MERS compared with the global information circulating about infection control measures and COVID-19. Another study conducted during COVID-19 indicated that behavioural coping, through adoption of precautionary measures, resulted in less psychological stress among university students (Li and Peng, 2020).

As a method for managing stress, a large proportion of participants in our study made a conscious effort to participate in physical activity, create routines and avoid media related to COVID-19. The emotional impact of COVID-19 on participants in this study provided them with motivation to protect themselves (Huang and Rong Liu, 2020). Nursing students embraced methods to mitigate the stress created by having to deal with the uncertainties of COVID-19 in addition to the general stressors of university life. Participating in exercise was a coping strategy found to be beneficial for not only their physical health but also their mental wellbeing. There is a growing recognition regarding the positive effects of exercise on mood states such as anxiety, stress and depression and many nursing students would be aware of the positive biochemical mechanisms such as endorphins, mitochondria and the mammalian target of rapamycin (Mikkelsen et al., 2017). This theoretical knowledge may have influenced their decision to engage in exercise as a means of coping.

Mitigating the increased psychological stress caused by the impact of COVID-19 on their lives was overwhelming for some nursing students in our study. Indeed, clinical placements allowed students to connect socially, however the ability to cope was outweighed by the additional concerns of having to attend clinical placement in the midst of the pandemic. Acknowledging that some students require extra support to assist them to cope during a crisis is important for universities as this holds implications for counselling services and implementation of mental health screening strategies (Irawan et al., 2020). Despite this study demonstrating that most participants used positive coping strategies, it also highlighted that some students admitted that they were not coping at all. This is an important admission. Universities can assist nursing students who require extra support to promote their psychological wellbeing during a public health crisis. However, it must be acknowledged that during a pandemic, there may be an increased demand for mental health services and university staff may consider implementing alternative strategies to encourage positive coping strategies such as virtual check-in sessions allowing nursing students to

discuss their feelings, ask questions and share coping strategies.

#### 4.1. Limitations

A limitation of this study was the participant sample size, with only nine percent of all students enrolled in the BN program at the single regional university participating in the research. Therefore, generalisation of results cannot be relied on for other universities. It is unclear why students chose to respond or did not reply to this study. This response rate may also have skewed the response towards those students who remained engaged with the university during this period. Additionally, this investigation was conducted at one institution, however this regional university covered a mix of rural, regional and metropolitan campuses and thus the transferability of findings should be considered. While these data were drawn from a single qualitative item, they captured participants coping strategies at a specific point in time.

#### 5. Implications and recommendations

It must be acknowledged that while some nursing students adopted strategies to cope with the changes posed by the pandemic, others did not. Strategies designed to promote the adoption of appropriate coping strategies are crucial to ensure nursing students become resilient nurses of the future, with the ability to use the most effective methods to address any challenges that may become apparent in their future career. Adoption of appropriate methods to cope during public health emergencies will assist with stress levels. Therefore at a university level, academics need to recognise the individual nature of coping and ensure that during public health emergencies Schools of Nursing can provide extra support to enable that theoretical and practical study continues in a manner that is accessible and safe for all nursing students.

#### 6. Conclusion

University is well known to be a stressful environment and studies suggest that it may be particularly stressful for nursing students, who not only have to cope with a theoretical (coursework) workload but also must attend mandatory clinical placements. While clinical placements may assist with nursing students' social isolation, many found this to be anxiety inducing. This paper recognises this and expands its understanding by examining the additional stress that COVID-19 placed on nursing students. Understanding how they invested their own conscious effort to reactively cope, from their lived perspectives, provides insight into the strategies that they found to be most effective. Student's adaptive coping strategies helped them manage their stress. However, as mentioned in the paper, it is important to acknowledge and understand that not all students 'coped'.

#### Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

#### CRediT authorship contribution statement

Professor Lorna Moxham<sup>a#</sup>: Conceptualization, Methodology, Formal analysis, Data curation, Writing – original draft, Writing – review & editing. Professor Ritin Fernandez<sup>b</sup>: Conceptualization, Investigation, Writing – original draft, Writing – review & editing. Ms Heidi Lord<sup>c</sup>: Conceptualization, Writing – original draft. Professor Elizabeth Halcomb<sup>d</sup>: Conceptualization, Writing – original draft, Writing – review & editing. Dr Rebekkah Middleton<sup>e</sup>: Conceptualization, Writing – original draft.

#### Acknowledgements

The authors wish to thank those who participated in this study.

#### References

- Aristovnik, A., Kerzic, D., Ravselj, D., Tomazevic, N., Umek, L., 2020. Impacts of the COVID-19 pandemic on life of higher education students: a global perspective. *Sustainability* 12 (8438), 1–34. <https://doi.org/10.3390/su12208438>.
- Ashokka, B., Ong, S.Y., Tay, K.H., Loh, N.H.W., Gee, C.F., Samarasekera, D.D.J.M.T., 2020. Coordinated responses of academic medical centres to pandemics: sustaining medical education during COVID-19. *Med. Teach.* 1–10. <https://doi.org/10.1080/0142159X.2020.1757634>.
- Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3 (2), 77–101. <https://doi.org/10.1191/1478088706QP0630A>.
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., Zheng, J., 2020. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res.* 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>.
- Cassady, J.C., Pierson, E.E., Starling, J.M., 2019. Predicting student depression with measures of general and academic anxieties. *Educ. Psychol.* 4 (11), 1–9. <https://doi.org/10.3389/educ.2019.00011>.
- Council of Deans of Health (2020). Clinical placements and COVID-19 – what you need to know. <https://councilofdeans.org.uk/category/policy/x-covid19/page/3/>.
- Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P., Lam, S., 2020. COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *J. Appl. Learn. Teach.* 3 (1), 1–20. <https://doi.org/10.37074/jalt.2020.3.1.7>.
- Dewart, G., Corcoran, L., Thirsk, L., Petrovic, K., 2020. Nursing education in a pandemic: academic challenges in response to COVID-19. *Nurse Educ. Today* 92, 104471. <https://doi.org/10.1016/j.nedt.2020.104471>.
- Fernandez, R., Lord, H., Halcomb, E.J., Moxham, L., Middleton, R., Alananzeh, I., Ellwood, L., 2020. Implications for COVID-19: a systematic review of nurses' experiences of working in acute care hospital settings during a respiratory pandemic. *Int. J. Nurs. Stud.* 111. <https://doi.org/10.1016/j.ijnurstu.2020.103637>.
- de la Fuente, J., Paoloni, P., Kauffman, D., Meryem, Yilmaz, S., Sander, P., 2020. Big five, self-regulation and coping strategies as predictors of achievement emotions in undergraduate students. *Int. J. Environ. Res. Public Health* 17 (10), 3602. <https://doi.org/10.3390/ijerph17103602>.
- Hirsch, C.D., Barlem, E.L.D., de Almeida, L.K., Tomaschewski-Barlem, J.G., Figueira, A. B., Lunardi, V.L., 2015. Coping strategies of nursing students for dealing with university stress. *Rev. Bras. De. Enferm.* 68 (5), 501–508. <https://doi.org/10.1590/0034-7167.2015680503i>.
- Huang, L., Rong Liu, H., 2020. Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak. *PLoS One* 15 (8), e0237303. <https://doi.org/10.1371/journal.pone.0237303>.
- Irawan, A.W., Dwisona, D., Lestari, M., 2020. Psychological impacts of students on online learning during the pandemic COVID-19. *KONSELI: J. Bimbingan. Dan. Konseling (E-J.)* 7 (1), 53–60.
- Kim, J.S., Choi, J.S., 2016. Middle East respiratory syndrome-related knowledge, preventive behaviours and risk perception among nursing students during outbreak. *J. Clin. Nurs.* 25 (17–18), 2542–2549. <https://doi.org/10.1111/jocn.13295>.
- Li, Y., Peng, J., 2020. Coping strategies as predictors of anxiety: exploring positive experience of Chinese University in Health Education in COVID-19 Pandemic. *Creat. Educ.* 11 (5), 735–750. <https://doi.org/10.4236/ce.2020.115053>.
- Lincoln, Y.S., Guba, E.G., 1986. But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *N. Dir. Program Eval.* 1986 (30), 73–84.
- Main, A., Zhou, Q., Ma, Y., Luecken, L.J., Liu, X., 2011. Relations of SARS-related stressors and coping to Chinese college students' psychological adjustment during the 2003 Beijing SARS epidemic. *J. Couns. Psychol.* 58 (3), 410. <https://doi.org/10.1037/a0023632>.
- Mikkelsen, K., Stojanovska, L., Polenakovic, M., Bosevski, M., Apostolopoulos, V., 2017. Exercise and mental health. *Maturitas* 106, 48–56.
- Minihan, E., Gavin, B., Kelly, B.D., McNicholas, F., 2020. COVID-19, mental health and psychological first aid. *Ir. J. Psychol. Med.* 1–12. <https://doi.org/10.1017/ipm.2020.41>.
- Moxham, L., Taylor, E., Patterson, C., Perlman, D., Brighton, R., Sumskis, S., Keough, E., Heffernan, T., 2016. Can a clinical placement influence stigma? An analysis of measures of social distance. *Nurse Educ. Today* 44, 170–174.
- Oyekin, D.G., Sahin, E.M., Aldemir, E., 2017. Mental health, suicidality and hopelessness among university students in Turkey. *Asian J. Psychiatry* 29, 185–189. <https://doi.org/10.1016/j.ajp.2017.06.007>.
- Patil, N.G., Yan, Y.C., 2003. SARS and its effect on medical education in Hong Kong. *Med Educ.* 37 (12), 1127–1128. <https://doi.org/10.1046/j.1365-2923.2003.01723.x>.
- Restubog, S.L.D., Ocampo, A.C.G., Wang, L., 2020. Taking control amidst the chaos: emotion regulation during the COVID-19 pandemic. *J. Vocat. Behav.* 119. <https://doi.org/10.1016/j.jvb.2020.103440>.
- Sherbino, J., Atzema, C., 2004. SARS-Ed<sup>®</sup>: severe acute respiratory syndrome and the impact on medical education. *In: Ann Emerg Med* 44, 229–231. <https://doi.org/10.1016/j.annemergmed.2004.05.021>.

- Simmons, L., Jones, T., Bradley, E., 2017. Reducing mental health stigma: the relationship between knowledge and attitude change. *Eur. J. Ment. Health* 1 (12), 25–40. <https://doi.org/10.5708/EJMH.12.2017.1.2>.
- Usher, K., Wynaden, D., Bhuller, N., Durkin, J., Jackson, D., 2020. The mental health impact of COVID-19 on pre-registration nursing students in Australia. *Int. J. Ment. Health Nurs.* 29, 1015–1017. <https://doi.org/10.1111/inm.12791>.
- Terese, Kochuvilayil, Ritin, Fernandez, Iorna, MOXHAM, Heidi, Lord, Albara, Alomari, Leanne, Hunt, Rebekkah, Middleton, Elizabeth, Halcomb, et al., 2021. COVID-19: Knowledge, anxiety, academic concerns and preventative behaviours among Australian and Indian undergraduate nursing students: A cross-sectional study. *Journal of Clinical Nursing* 30, 882–891. <https://doi.org/10.1111/jocn.15634> (5–6) In press.