Article

# Student Learning Experiences and Well-Being during the COVID-19 Pandemic at the University of Free State

**Semira Pillay**
https://orcid.org/0000-0001-5793-9156
University of the Free State
pillays1@ufs.ac.za

**Lise Kriel**
https://orcid.org/0000-0002-6607-2221
University of the Free State
kriell@ufs.ac.za

**Frank Magaya**
https://orcid.org/0000-0001-6387-9604
University of the Free State
magayaffi@ufs.ac.za

## Abstract

South African universities were closed nationally during the COVID-19 pandemic. On-campus learning was suspended, and on-campus student accommodation was closed from March 2020, with phased returns to campus continuing until early 2022. The study intended to identify categories of students whose learning and well-being were most affected by the COVID-19 pandemic and provide empirical evidence to inform initiatives to support these students better. An online cross-sectional survey completed by 1 562 respondents studying at a South African university explored students' experiences of the COVID-19 pandemic, focusing on students' learning and well-being, subjective social status, sense of coherence, and future anxiety. Multivariable regression models showed younger age (18 to 21 years), female gender, low subjective social status, and isiZulu and English home language were significantly associated with lower well-being. Regression analysis also showed a significant association between the dimensions of manageability and meaningfulness of sense of coherence and well-being and that high levels of future anxiety were associated with lower well-being. Half of the respondents (49.6%) reported that the pandemic has negatively impacted their overall student experience. However, more than half (51.2%) prefer online to face-to-face learning and found it less time-consuming (63.5%). The results could assist universities in introducing appropriate support services targeting young female students with low subjective social status to support the mental health and well-being of those most affected by the pandemic.

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## Introduction

This study investigated students' experiences at the University of the Free State (UFS) during the COVID-19 pandemic, focusing on their well-being and learning. The pandemic has impacted the global higher education sector radically (Bartolic et al. 2022; Bozkurt 2022; Burki 2020; Cahusac de Caux 2022; Cesco et al. 2021; Jackman et al. 2022; Khan 2021; McGaughey et al. 2022; Paterson 2021; Pokhrel and Chhetri 2021; Schleicher 2020; Shabangu 2021; Stracke et al. 2022; Tilak and Kumar 2022; Van Schalkwyk 2021). Khan (2021) categorises these impacts into five themes: digital learning, e-learning challenges, digital transition to emergency virtual assessment (all relating to the impact of COVID-19 on the mode of teaching and learning), creating collaborative cultures, and psychological impact. Regarding the psychological impact specifically, the literature shows that the pandemic has had significant effects on university students' mental health (Aqeel et al. 2021; Bonsaksen et al. 2022; Chaturvedi, Vishwakarma, and Singh 2021; J. Chen et al. 2021; Chen and Lucock 2022; Deng et al. 2021; Dodd et al. 2021; Garcia et al. 2021; Gupta and Agrawal 2021; Hagedorn, Wattick, and Olfert 2021; Laher et al. 2021; Li et al. 2021; Mohammed and Memmedova 2023; Oliveira et al. 2022; Olson et al. 2021; Padmanabhanunni and Pretorius 2021; Pandya and Lodha 2022; Pretorius and Padmanabhanunni 2021; Prowse et al. 2021; Sarasjärvi et al. 2022; Sayeed et al. 2020; Serpas and Ignacio 2023; Visser and Law-van Wyk 2021).

This study intended to identify categories of students whose mental health was most affected by the COVID-19 pandemic by investigating the impact of the pandemic on the psychological well-being and learning experiences of university students. These students, in particular, need support when traumatic, uncertain, or disruptive situations arise. This was done using a quantitative research method. The survey tool was employed to quantitatively assess opinions about the student experience during the pandemic in 2020. The study covered all three University of the Free State (UFS) campuses in South Africa. Given that difficulties with mental health impact not only learning and academic participation but all facets of a student's life (Baik, Larcombe, and Brooker 2019; Eisenberg, Golberstein, and Hunt 2009; Wyatt and Oswalt 2013), a better understanding of the mental health, well-being, and learning experiences of students is of significant importance to universities.

## Background

Extraordinary measures were implemented globally to halt the COVID-19 pandemic and reduce transmission of the novel coronavirus. South Africa went into a hard lockdown at the end of March 2020, with severe social restrictions continuing in May 2020 and again in June and July 2021 (Lebuso 2022). The country remained in a state of national disaster from March 2020 until April 2022 (Government of South Africa

2022), with the changing levels of lockdown continually influencing how the higher education space operated. South African universities were closed nationally, on-campus learning was suspended, conferences, workshops, and other social events were postponed or cancelled, and on-campus student accommodation was closed. Students had to rapidly transition from face-to-face to online lectures to ensure the academic year would be completed. The closure period lasted from 18 March 2020 to 21 February 2022; a blended teaching and learning approach was adopted, where 67% of modules offered were face-to-face at UFS (University of the Free State, 2022).

According to the UFS Students' Access to and Use of Learning Materials Survey Report (Centre for Teaching and Learning, 2020), 90% of UFS students had modules that moved to remote learning during the first semester of 2020. Other students mostly engaged with their studies through self-study. Face-to-face teaching and learning continued only in extraordinary cases, for example, for students in the health sciences. Most UFS students used smartphones to engage in academic activities, although this was also considered the device that students found most difficult to use for academic purposes. Most (54%) students reported not having a quiet place to study, and only half had good connectivity from their accommodations. The following were recorded as challenges from an online/blended learning perspective: frustrations with technology; a lack of appropriate skills to engage with technology; difficulties engaging with lecturers or peers; feelings that some learning was lost due to less engagement with lecturers or work; and being distracted when at home. It is, therefore, evident that UFS students had to adapt to a new way of learning very quickly due to the pandemic.

As noted in the introduction, previous studies have found a substantial influence on mental health due to the pandemic. Common psychological responses reported include depression, anxiety, and post-traumatic stress (Casagrande et al. 2020; Chew et al. 2020; Odriozola-González et al. 2020; Rajkumar 2020; Wang et al. 2020; Xiong et al. 2020). Chew et al. (2020) also found that susceptibility to the disease, changes in habits, financial uncertainty, and concerns about the well-being of loved ones were all factors that contributed to increased anxiety. Regarding university students specifically, Dodd et al. (2021) found that first-year students experienced more challenges than senior students for various reasons, such as underdeveloped coping mechanisms to deal with adversity.

## Research objectives

This study aimed to provide empirical evidence to inform interventions or initiatives intended to better support the mental well-being of UFS students by exploring the experiences of local and international undergraduate and postgraduate students at the UFS during the COVID-19 pandemic. The objectives of the study were as follows:

- Identify and profile UFS students who are most affected by the pandemic.

- Investigate the relationships between students' learning and their well-being, specifically psychological well-being, social well-being, emotional well-being, subjective social status, sense of coherence, and anxiety during the pandemic.

- Investigate the relationship between students' well-being and sociodemographic factors, specifically gender, age, race, language, nationality, economic status, and social capital.

To achieve the above research objectives, the following research questions were asked:

1. How have students enrolled at the UFS been impacted by COVID-19? What are the characteristics of those affected?

2. What sociodemographic factors were associated with low well-being in UFS students during COVID-19?

3. Was the impact of COVID-19 on UFS students' learning associated with low well-being?

## Research method

### Study population

The unit of observation in this study was registered UFS students of all categories across all three UFS campuses aged 18 years and older.

### Design and sampling

Probability sampling was adopted, and participants were invited to participate in the study on the grounds of being registered as a UFS student.

### Data collection procedure

An online survey questionnaire was distributed via email to all registered UFS students. The survey accepted responses from 1 December 2021 to 5 March 2022. During this time, two reminders were sent to potential participants, resulting in a 14% response rate. This study was approved by the General/Human Research Ethics Committee of the UFS (HSD2021/1325).

### Data collection instruments

The survey questionnaire collected sociodemographic data [for example, age and gender, level of study, sources of university funding, and subjective social status (SSS)], data about the impact of COVID-19 (in general, and on students' learning experiences and living arrangements specifically), reactions to the pandemic, sense of coherence, future anxiety, and well-being. As explicated in Table 1, SSS, sense of coherence, future anxiety, and well-being were measured through the MacArthur Scale of Subjective

Social Status (Adler et al. 2000), the Work-related Sense of Coherence questionnaire (Vogt, Jenny, and Bauer 2013), the Dark Futures Scale (Zaleski 1996), the World Health Organization Well-Being Index (WHO-5) (Topp et al. 2015), and the Mental Health Continuum Short Form (MHC-SF) (Keyes 2009). The researchers compiled additional survey questions to collect data for the remaining variables, following the example of Dodd et al. (2021) and Visser and Law-van Wyk (2021).

## Data analysis

Data were analysed using R Programming. Scale reliability was measured through Cronbach's alpha. Descriptive analyses were performed for the sample profile, the impact of COVID-19 on living and learning, and the psychological variables. Independent t-tests were performed to compare psychological factors. The chi-squared test was used to assess if there was an association between well-being and various sociodemographic factors (i.e., age, gender, qualification type, and subjective social status). For all analyses, p-values $< .05$ were deemed statistically significant. Several binary logistic regression models were performed to identify the predictors of low well-being. Model 1 included the sociodemographic variables of age, gender, qualification level, subjective social status, and home language; model 2 expanded on model 1 by adding a sense of coherence scale; and model 3 expanded on model 2 by including future anxiety.

**Table 1:** Data collection instruments

| Construct | Instrument | Description of measure/survey question | Items and scoring | Reliability Analysis (Cronbach's Alpha) |
|---|---|---|---|---|
| Subjective social status (SSS) | MacArthur Scale of Subjective Social Status | Imagine that the ladder represents where people stand in South African society. At the top of the ladder are the people who are the best off, those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off, those who have the least money, least education, worst jobs, or no job. Please mark the rung that best represents where you think you stand on the ladder. | Ten-point scale with 10 (top rung) indicating the highest and 1 (bottom rung) indicating the lowest SSS. Further scored as low SSS (1 to 4), medium SSS (5 to 7), high SSS (8 to 10). | Not applicable |
| Sense of coherence | Work-related Sense of Coherence questionnaire | How do you personally find your current living situation in general? | Nine items with three subscales: manageability (2 items), meaningfulness (3 items), and comprehensibility (4 items). Scored from 1 to 7 with higher values indicating higher sense of coherence. | Overall = .859 |
| Future anxiety | Dark Futures Scale | The statements below concern your attitude towards the future. Each statement may reflect your attitude to a different degree. Indicate the number that most accurately defines your point of view. E.g., I am afraid that the problems which trouble me now will continue for a long time. | Five items scored on a seven-point scale where 1 = decidedly false, 4 = hard to say, and 7 = decidedly true. Higher scores indicate higher anxiety. | .825 |

| Construct | Instrument | Description of measure/survey question | Items and scoring | Reliability Analysis (Cronbach's Alpha) |
|---|---|---|---|---|
| Well-being | Mental Health Continuum Short Form (MHC-SF) | The short form of the Mental Health Continuum (MHC-SF) is derived from the long form (MHC-LF), which consisted of seven items measuring emotional well-being, psychological well-being, social well-being and, self-perceived well-being for the past month (e.g., over the past month I have felt active and vigorous). | Six-point response scale (0 = never, 1 = once or twice , 2 = about once a week, 3 = about 2 or 3 times a week, 4 = almost everyday, 5 = everyday) Raw score multiplied by 4, thus ranging from 0 (lowest well-being) to 100 (highest well-being). Further scored as 28 very low well-being, _50 low well-being, >50 high well-being | .918 |
| | World Health Organization Well-Being Index (WHO-5) | The WHO-5 is a short questionnaire consisting of 5 simple and non-invasive questions, which tap into subjective well-being. The scale has adequate validity as a screening tool for depression | Five statements, which respondents rate according to the scale below (in relation to the past two weeks) All of the time = 5, Most of the time = 4, More than half of the time = 3, Less than half of the time = 2, Some of the time = 1, At no time = 0 | Not applicable |

# Results

## Sample profile

Of the 2,064 survey responses received, 502 that did not answer all the survey questions were removed from the dataset, resulting in 1,562 responses in the analysis.

Table **2** shows the sociodemographic characteristics of the sample. Most of the respondents were 18 to 21 years old (57%), African (79%), and female (68%). Regarding home language, the most represented groups were those speaking Sesotho (32%) or isiZulu (29%) at home. Most of the respondents were undergraduates (96%) studying towards a Bachelor's qualification (88%) in Education (32%) or the Humanities (23%) and funding their studies through government funding (78%). Half of the respondents were first-generation students (50%), and most reported their subjective social status as medium (48%) or low (35%).

**Table 2:** Sociodemographic sample characteristics (N=1562)

| Item | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Gender | Female | 1066 | 68,25 |
| | Male | 465 | 29,77 |
| | I'd rather not say | 24 | 1,54 |
| | Other | 7 | 0,45 |
| Age | 18-21 | 895 | 57,30 |
| | 22-25 | 459 | 29,39 |
| | >25 | 184 | 11,78 |
| | I'd rather not say | 24 | 1,54 |
| Race | African | 1235 | 79,07 |
| | White | 182 | 11,65 |
| | Coloured | 84 | 5,38 |
| | Blank/I'd rather not say | 50 | 3,20 |
| | Indian | 8 | 0,51 |
| | Asian other than Indian | 3 | 0,19 |
| Home language | Sesotho | 497 | 31,82 |
| | isiZulu | 448 | 28,68 |
| | Afrikaans | 205 | 13,12 |
| | English | 156 | 9,99 |
| | Other South African languages [1] | 154 | 9,86 |
| | I'd rather not say | 102 | 6,53 |
| Education | | | |
| Faculty | Education | 494 | 31,63 |
| | The Humanities | 356 | 22,79 |
| | Economic and Management Sciences | 334 | 21,38 |
| | Natural and Agricultural Sciences | 261 | 16,71 |
| | Law | 46 | 2,94 |
| | Theology and Religion | 33 | 2,11 |
| | Health Sciences | 30 | 1,92 |
| | Blank/Unsure | 8 | 0,51 |
| Qualification level | Bachelor/NQF7 | 1374 | 87,96 |
| | Undergraduate Diploma/NQF6 | 95 | 6,08 |
| | Higher Certificate/NQF5 | 52 | 3,33 |
| | Honours/NQF8 | 37 | 2,37 |
| | Master's/doctoral/NQF9+10 | 4 | 0,26 |
| Year level | Undergraduate | 1505 | 96,35 |
| | 1st year undergraduate | 423 | 27,08 |
| | 2nd year undergraduate | 505 | 32,33 |
| | 3rd year undergraduate | 319 | 20,42 |
| | 4th + year undergraduate | 258 | 16,52 |
| | Postgraduate | 36 | 2,30 |
| | Blank/Unsure | 21 | 1,34 |
| Years enrolled at UFS | 1 year | 651 | 41,68 |
| | 2 years | 382 | 24,46 |
| | 3+ years | 529 | 33,87 |
| Social and financial capital | | | |
| | Government funding [2] | 1213 | 77,66 |

| | | | |
|---|---|---|---|
| Sources of funding for university costs | Money from parents, other family members, or friends | 229 | 14,66 |
| | Bursary [3] | 48 | 3,07 |
| | Own money | 42 | 2,69 |
| | Student loan | 27 | 1,73 |
| | I study for free because I am a UFS staff member | 3 | 0,19 |
| First-generation status | Yes, I am the first person | 780 | 49,94 |
| | No, I have a family member(s) who has attended university | 704 | 45,07 |
| | Blank/Don't know/Unsure | 43 | 2,75 |
| | I'd rather not say | 35 | 2,24 |
| Subjective Social Status (SSS) | Low | 549 | 35,15 |
| | Rung 4 | 181 | 11,59 |
| | Rung 3 | 116 | 7,43 |
| | Rung 2 | 42 | 2,69 |
| | Bottom rung | 210 | 13,44 |
| | Medium | 755 | 48,34 |
| | Rung 7 | 165 | 10,56 |
| | Rung 6 | 210 | 13,44 |
| | Rung 5 | 380 | 24,33 |
| | High | 258 | 16,52 |
| | Top rung | 43 | 2,75 |
| | Rung 9 | 76 | 4,87 |
| | Rung 8 | 139 | 8,90 |

[1] In order of prevalence: IsiXhosa, Setswana, Sepedi, Xitsonga, SiSwati, Tshivenda, Northern Sotho, and IsiNdebele.

[2] In order of prevalence, National Student Financial Aid Scheme (74%), Other, or National Research Foundation.

[3] In order or prevalence: from private sponsors/businesses or parastatals (e.g., Eskom) or for academic merit.

## Impact of COVID-19 on living and learning

Most respondents reported that the COVID-19 pandemic disrupted their lives (79%) and had a negative financial impact (73%; see Table 3). The respondents were more fearful of a loved one contracting COVID-19 (83%) than themselves (66%). The majority felt isolated (54%), vulnerable/not in control (59%), and as if life had been on hold (67%) since the start of the pandemic. However, only half of the respondents reported that COVID-19 negatively impacted their student experience. The respondents preferred online to face-to-face learning (52%). They found it less time-consuming (64%), with many respondents reporting that they did not find it more difficult to learn online than face-to-face (49%) or to interact with lecturers (48%) or other students (45%) online. However, similar proportions of respondents agreed (40%) and disagreed (43%) that their unreliable internet disrupts online learning, and 41% felt distracted from

their learning due to COVID-19. Most agreed that their home environment supports online learning (57%). The respondents were living mostly in townships (38%) or urban suburbs (25%) during lockdown, with family members (65%) in their family homes (51%).

**Table 3:** Impact of COVID-19 on living and learning (N = 1562)

| Item | Frequency (n) | Percentage (%) |
|---|---|---|
| COVID-19 has disrupted my life in general: agree [1] | 1233 | 78,94 |
| COVID-19 has had a negative financial impact in my life: agree | 1142 | 73,11 |
| Contracted COVID-19: no | 1057 | 67,67 |
| Taken care of a loved one due to being ill with COVID-19: no | 991 | 63,44 |
| Lost a loved one due to COVID-19: no | 1000 | 64,02 |
| I am fearful of contracting the COVID-19: agree | 1033 | 66,13 |
| I am fearful of a loved one contracting COVID-19: agree | 1301 | 83,29 |
| I have felt isolated since the start of the COVID-19 pandemic: | | |
| agree | 844 | 54,03 |
| disagree [2] | 369 | 23,62 |
| I have felt vulnerable/not in control since the start of the COVID-19 pandemic: | | |
| agree | 926 | 59,28 |
| disagree | 317 | 20,29 |
| I have felt as if life is on hold since the start of the COVID-19 pandemic: agree | 1041 | 66,65 |
| I prefer online learning to face-to-face: agree | 814 | 52,11 |
| I find it more difficult to learn online than face-to-face: | | |
| agree | 529 | 33,87 |
| disagree | 764 | 48,91 |
| I find it hard to interact with lecturers online: | | |
| agree | 564 | 36,11 |
| disagree | 756 | 48,40 |
| I find it hard to interact with other students online: | | |
| agree | 664 | 42,51 |
| disagree | 701 | 44,88 |
| I find online learning less time consuming than face to face: agree | 1002 | 64,15 |
| My internet is unreliable and disrupts online learning: | | |
| agree | 631 | 40,40 |
| disagree | 664 | 42,51 |
| My home environment supports online learning: agree | 885 | 56,66 |
| I am confident with my computer skills: agree | 1240 | 79,39 |
| I feel distracted from my learning due to COVID-19 | | |
| agree | 636 | 40,72 |
| disagree | 564 | 36,11 |

| | | |
|---|---|---|
| My overall student experience has been negatively impacted by COVID-19: agree | 788 | 50,45 |
| What type of area do you live in during lockdown? | | |
| Township | 586 | 37,52 |
| Urban suburb | 397 | 25,42 |
| Rural area (e.g., farm) | 297 | 19,01 |
| Informal settlement | 115 | 7,36 |
| Blank/I'd rather not say | 86 | 5,51 |
| City centre | 81 | 5,19 |
| What type of accommodation do you live in during lockdown? | | |
| Family home | 798 | 51,09 |
| Private residence/student house | 624 | 39,95 |
| UFS residence | 85 | 5,44 |
| Blank/I'd rather not say | 55 | 3,52 |
| Who do you live with during lockdown? | | |
| Family member(s) | 1020 | 65,30 |
| Alone | 273 | 17,48 |
| Friends | 165 | 10,56 |
| Blank/I'd rather not say | 64 | 4,10 |
| Partner | 40 | 2,56 |

[1] agree includes strongly agree and agree

[2] disagree includes strongly disagree and disagree

### Future anxiety, sense of coherence, and well-being

Future anxiety was high for two scale items, i.e., fear about facing life's crises or difficulties (61% true; see Table 4) and fear about changes in the economic and political situation threatening the future (71% true). Conversely, 46% of respondents were not afraid that their lives would change for the worse in the future, and 44% were not disturbed by the thought that they would not realise their goals in the future.

**Table 4:** Future anxiety (N = 1562)

| **Item** | **Frequency (n)** | **Percentage (%)** |
|---|---|---|
| I am afraid that the problems which trouble me now will continue for a long time: | | |
| true [1] | 571 | 36,56% |
| false [2] | 605 | 38,73% |
| I am terrified by the thought that I might sometimes face life's crises or difficulties: true | 949 | 60,76% |
| I am afraid that in the future my life will change for the worse: | | |
| true | 521 | 33,35% |
| false | 718 | 45,97% |
| I am afraid that changes in the economic and political situation will threaten my future: true | 1107 | 70,87% |
| I am disturbed by the thought that in the future I won't be able to realise my goals | | |
| true | 608 | 38,92% |
| false | 684 | 43,79% |

[1] true includes decidedly true, true and somewhat true

[2] false includes decidedly false, false and somewhat false

## Factors associated with low well-being

**Table 5:** Well-being of university students differentiated by sociodemographic characteristics (N=1433)

The chi-squared test identified significant differences in age, gender and subjective social status (SSS) (Table 5). However, when examining the strength of association using Cramer's V, it was identified that all the significant variables had weak to moderate associations. Only gender and SSS had Cramer's V above .1 (Gender, Cramer's V = .109; SSS, Cramer's V = .12). This signifies a moderate association compared to Age.

## Correlations between the measurements

| | Low/very low Wellbeing % (*n*) | Sufficient Wellbeing % (*n*) |
|---|---|---|
| **Age** | $\chi^2 = 6.619\ (2), p = 0.037, V = 0.068$ | |
| >25 years | 34.9 (61) | 65.1 (114) |
| 22-25 years | 39.2 (165) | 60.8 (256) |
| 18-21 years | 44.2 (370) | 55.8 (467) |
| **Gender** | $\chi^2 = 16.536\ (1), p < 0.001, V = 0.109$ | |
| Male | 33.3 (142) | 66.7 (284) |
| Female | 45.1 (454) | 54.9 (553) |
| **Qualification level** | $\chi^2 = 0.782\ (2), p = 0.676,\ ns$ | |
| Bachelor | 41.7 (524) | 58.3 (733) |
| UGDip/AdvDip/HC | 42.6 (58) | 57.4 (78) |
| Postgraduate | 35.0 (14) | 65.0 (26) |
| **Subjective social status** | $\chi^2 = 20.734\ (2), p < 0.001, V = 0.12$ | |
| Low | 49.2 (267) | 50.8 (276) |
| Medium | 37.2 (262) | 62.8 (443) |
| High | 36.2 (67) | 63.8 (118) |

$\chi^2$, chi square; *(df)*, degrees of freedom; *p*, p-value; *V*, Cramer's V; *ns*, not significant;

**Table 6:** Correlation measure (1433)

| | | Wellbeing | SoC: Comprehensibility | SoC: Manageability | SoC: Meaningfulness | SoC: Overall | Future Anxiety |
|---|---|---|---|---|---|---|---|
| 1. | Wellbeing | 1 | | | | | |
| 2. | SoC: Comprehensibility | 0.36 | 1 | | | | |
| 3. | SoC: Manageability | 0.29 | 0.61 | 1 | | | |
| 4. | SoC: Meaningfulness | 0.37 | 0.71 | 0.52 | 1 | | |
| 5. | SoC: Overall | 0.39 | 0.90 | 0.83 | 0.86 | 1 | |
| 6. | Future Anxiety | -0.44 | -0.27 | -0.19 | -0.28 | -0.28 | 1 |

Table 6 presents a correlation matrix. As shown, there is a weak positive correlation between well-being and the different measures of sense of coherence (SoC) (comprehensibility = .36; manageability = .29; meaningfulness = .37). Moreover, well-being and future anxiety demonstrate a moderate negative correlation of -.44, indicating that as well-being increases, future anxiety tends to decrease. Measures of SoC are moderate to strongly positively correlated with each other (comprehensibility and manageability = .61; comprehensibility and meaningfulness = .71; manageability and meaningfulness = .52). Lastly, all measures of SoC are moderately negatively correlated with future anxiety (comprehensibility = -.27; manageability = -.19; meaningfulness = -.28).

## Fitting a logistic multiple regression model

**Table 7:** Multivariable model examining sociodemographic factors associated with low well-being (<50). (N = 1433)

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | **OR** | **95%CI** | **OR** | **95%CI** | **OR** | **95%CI** |
| **Age** | | | | | | |
| >25 years | (ref.) | | (ref.) | | (ref.) | |
| 22-25 years | 1.345 | 0.949-1.918 | 1.152 | 0.780-1.711 | 0.968 | 0.641-1.466 |
| 18-21 years | 1.579* | 1.140-2.203 | 1.439 | 1.002-2.081 | 1.241 | 0.847-1.829 |
| **Gender** | | | | | | |
| Male | (ref.) | | (ref.) | | (ref.) | |
| Female | 1.732** | 1.384-2.714 | 1.860** | 1.444-2.404 | 1.820** | 1.396-2.383 |
| **Qualification level** | | | | | | |
| Postgraduate | (ref.) | | (ref.) | | (ref.) | |
| Bachelor | 1.306 | 0.704-2.507 | 1.351 | 0.683-2.776 | 1.237 | 0.610-2.600 |
| UGDip/AdvDip/HC | 1.397 | 0.702-2.859 | 1.338 | 0.625-2.955 | 1.154 | 0.522-2.621 |
| **Subjective social status** | | | | | | |
| High | (ref.) | | (ref.) | | (ref.) | |
| Medium | 1.033 | 0.749-1.435 | 1.057 | 0.742-1.515 | 0.928 | 0.639-1.353 |
| Low | 1.844** | 1.323-2.587 | 1.663** | 1.155-2.408 | 1.464 | 0.998-2.158 |
| **Home Language** | | | | | | |
| Sesotho | (ref.) | | (ref.) | | (ref.) | |
| isiZulu | 1.257* | 0.979-1.615 | 1.390* | 1.049-1.844 | 1.477** | 1.101-1.985 |
| English | 1.434 | 1.001-2.053 | 1.617* | 1.083-2.415 | 1.640* | 1.079-2.495 |
| Afrikaans | 1.011 | 0.722-1.411 | 1.370 | 0.944-1.986 | 1.212 | 0.821-1.787 |
| IsiXhosa | 1.064 | 0.624-1.794 | 1.280 | 0.717-2.271 | 1.438 | 0.781-2.632 |
| Other | 1.297 | 0.831-2.018 | 1.258 | 0.776-2.036 | 1.165 | 0.703-1.925 |
| **SoC: Comprehensibility** | | | | | | |
| High | | | (ref.) | | (ref.) | |
| Low | | | 1.399* | 1.061-1.844 | 1.256 | 0.938-1.679 |
| **SoC: Manageability** | | | | | | |
| High | | | (ref.) | | (ref.) | |
| Low | | | 1.764** | 1.373-2.266 | 1.794** | 1.380-2.335 |
| **SoC: Meaningfulness** | | | | | | |
| High | | | (ref.) | | (ref.) | |
| Low | | | 1.961** | 1.509-2.552 | 1.708** | 1.297-2.252 |
| **Future Anxiety** | | | | | | |
| Low | | | | | (ref.) | |
| High | | | | | 3.691** | 2.910-4.696 |

OR, Odds Ratios; 95% CI, 95% Confidence interval; ref, Reference variable value; *, $p < 0.05$; ** $p < 0.01$

Table 7 provides the result of the multivariable regression models for low/very low beings. In model 1, we found significant associations between low/very low well-being and student age (18-21, OR = 1.579, 95% CI: 1.140–2.203), being female (OR = 1.732, 95% CI: 1.384–2.714), low subjective social status (SSS) (OR = 1.844, 95% CI: 1.323–2.587) and isiZulu home language (OR = 1.257, 95% CI: 0.979–1.615). After adding a sense of coherence in model 2, we found that student age was no longer significant while the other relationships (Female, low SSS and isiZulu) remained significant. Additionally, we found significant associations between low/very low well-being and English home language (OR = 1.617, 95% CI: 1.083-2.415) and low sense of coherence (comprehensibility, OR = 1.399, 95% CI: 1.061-1.844; manageability, OR = 1.764, 95% CI: 1.373-2.266; meaningfulness, OR = 1.399, 95% CI: 1.061-1.844). In model 3, future anxiety was added, resulting in low SSS and low SoC, with comprehensibility no longer a significant predictor of low/very low well-being. The OR for low SSS had decreased from model 1 to model 3. The association between isiZulu and English home languages increased, whereas being female lessened slightly. In addition, we found a significant association between low/very low well-being and high future anxiety (OR = 3.961, 95% CI: 2.910-4.696). The respective OR was the highest in the model.

## Recommendations and Conclusion

The current study aimed to explore the learning experiences of local and international undergraduate and postgraduate students at the UFS during the COVID-19 pandemic. Furthermore, the study aimed to determine the relationship between well-being and subjective social status, as well as the sense of coherence and anxiety during the pandemic. The study further investigated the association of sociodemographic variables (i.e., age, gender, race, home language, education, and social and financial capital), students' learning and well-being, subjective social status, sense of coherence, and future anxiety. Multivariable regression models showed younger age (18 to 21 years), female gender, low subjective social status, and isiZulu and English home language were significantly associated with lower well-being. Regression analysis also showed a significant association between the dimensions of manageability and meaningfulness of sense of coherence and well-being and that high levels of future anxiety were associated with lower well-being. The findings concur with those of Dodd et al. (2021), which also found that younger adult students (aged 18–24 years) had more symptoms of anxiety and depression during the COVID-19 pandemic than older adult students (≥25 years), supporting our findings of differences between undergraduate and postgraduate students. Half of the respondents (49.9%) reported being first-generation students, already considered a vulnerable population, and more than half (70.8%) agreed with the statement that they fear changes in the economic and political situation will threaten their future. This result indicates that students often feel their financial situations have no hope of changing even though they are currently obtaining a degree. Therefore, this indicates that younger adult students require targeted support and resources, particularly at the undergraduate level. These students may require additional assistance to cope with psychological challenges brought on by the pandemic. This highlights the notion

that age is a strong determinant of how individuals cope with anxiety and depression (Maulana, 2021). Higher education institutions (HEIs) may also want to consider a flexible learning environment post-pandemic, which may give students greater control over their learning environment and reduce stress. Peer support networks and mentorship programmes can also be beneficial as postgraduate students can guide their younger peers through trusted relationships. Additionally, universities must encourage students to use existing services. Naidoo and Cartwright (2022) argue that student counselling services should strive to reflect and develop a social justice approach that recognises how greater socioeconomic injustices and oppression that stem from disparities perpetuated during apartheid affect student academic performance and mental health. There is an increased need for these services to be made available virtually to accommodate students in an environment they feel most comfortable in. Similar findings to this study were found in a large-scale international study done by Aristovnik et al. (2020), where the mental health of students relied substantially on the amount of change in their daily routine, whether they received social support, being an undergraduate student, and living at a lower standard (subjective social status). However, the studies differed regarding gender. The international study found that the pandemic had a stronger impact on male students. The study also revealed that African students (Egypt and South Africa) were less satisfied with online lectures than North America and Europe, possibly due to the difference in developed ICT infrastructure. However, 67% of respondents in our study agreed that their home environment was conducive to online learning. Interestingly, the least anxious students in the international study were African students.

These findings highlight the need for HEIs' continued support of students regarding well-being and mental health and the need for improved interventions when change occurs suddenly in the sector that impacts students. Findings indicate that students with a lower SoC and a high level of future anxiety also experienced lower well-being. Initiatives to improve students' coping skills, resilience, and positive mindset are ways HEIs can strengthen students' capacity to navigate changes throughout their learning careers. The opportunity for students to participate in continued career guidance and skills development is also a way universities can help reduce student anxiety. Continuously improving the online learning space through digital literacy and support is vital to ensure equity among students in the online learning space. The study also highlighted the interdependency of variables contributing to well-being and student success. Therefore, interventions with a holistic approach are essential, given the complexity of this interdependency. However, some limitations of the study included surveying students at only one South African university. Therefore, comparisons could not be drawn in this way. Because the study only adopted a quantitative approach, rich data was not gathered in the form of the thoughts and feelings of respondents. In conclusion, the study provides valuable insights and evidence on the experiences of UFS students during the COVID-19 pandemic and the impact on their mental health during this challenging time. The findings highlighted the most vulnerable groups of students in higher education and encouraged continuous targeted support for student well-being.

## References

Adler, N. E., E. S. Epel, G. Castellazzo, and J. R. Ickovics. 2000. “Relationship of Subjective and Objective Social Status with Psychological and Physiological Functioning: Preliminary Data in Healthy White Women.” *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association* 19 (6): 586–92. https://doi.org/10.1037//0278-6133.19.6.586

Aqeel, M., J. Abbas, K. H. Shuja, T. Rehna, A. Ziapour, I. Yousaf, and T.Karamat. 2021. “The Influence of Illness Perception, Anxiety and Depression Disorders on Students Mental Health during COVID-19 Outbreak in Pakistan: A Web-Based Cross-Sectional Survey.” *International Journal of Human Rights in Healthcare* (ahead-of-print). https://doi.org/10.1108/IJHRH-10-2020-0095

Aristovnik, A., D. Keržič, D. Ravšelj, N. Tomaževič and L. Umek. 2020. “Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective." *Sustainability* 12 (20): 8438. https://doi.org/10.3390/su12208438

Baik, C., W. Larcombe, and A. Brooker. 2019. “How Universities Can Enhance Student Mental Well-being: The Student Perspective.” *Higher Education Research & Development* 38 (4): 674–87. https://doi.org/10.1080/07294360.2019.1576596.

Bartolic, S. K., D. Boud, J. Agapito, D. Verpoorten, S. Williams, L. Lutze-Mann, U. Matzat, M. M. Moreno, P. Polly, J. Tai, H. L. Marsh, L. Lin, J.-L. Burgess, S. Habtu, M. M. M. Rodrigo, M. Roth, T. Heap, and N. Guppy. 2022. “A Multi-Institutional Assessment of Changes in Higher Education Teaching and Learning in the Face of COVID-19.” *Educational Review* 74 (3): 517–33. https://doi.org/10.1080/00131911.2021.1955830.

Bonsaksen, T., V. Chiu, J.Leung, M. Schoultz, H.Thygesen, D. Price, M. Ruffolo, and A. Ø. Geirdal. 2022. “Students’ Mental Health, Well-Being, and Loneliness during the COVID-19 Pandemic: A Cross-National Study.” *Healthcare* 10 (6): 996. https://doi.org/10.3390/healthcare10060996.

Bozkurt, A. 2022. “Resilience, Adaptability, and Sustainability of Higher Education: A Systematic Mapping Study on the Impact of the Coronavirus (Covid-19) Pandemic and the Transition to the New Normal.” *Journal of Learning for Development* 9 (1): 1–16. https://doi.org/10.56059/jl4d.v9i1.590.

Burki, T. K.. 2020. “COVID-19: Consequences for Higher Education.” *The Lancet Oncology* 21 (6): 758. https://doi.org/10.1016/S1470-2045(20)30287-4.

Cahusac de Caux, B. 2022. “Introduction to the COVID-19 Pandemic and Its Impact on Higher Education.” In *Research and Teaching in a Pandemic World: The Challenges of Establishing Academic Identities During Times of Crisis*, edited by B. Cahusac de Caux, L. Pretorius, and L. Macaulay, 15–24. Singapore: Springer Nature. https://doi.org/10.1007/978-981-19-7757-2_2.

Casagrande, M., F. Favieri, R. Tambelli, and G. Forte. 2020. “The Enemy Who Sealed the World: Effects Quarantine Due to the COVID-19 on Sleep Quality, Anxiety, and Psychological Distress in the Italian Population.” *Sleep Medicine* 75 (November): 12–20. https://doi.org/10.1016/j.sleep.2020.05.011.

Centre for Teaching and Learning. 2020. “UFS Students’ Access to and Use of Learning Materials Survey Report.” Bloemfontein: University of the Free State.

Cesco, S., V. Zara, A. F. De Toni, P. Lugli, G. Betta, A. C. O. Evans, and G.Orzes. 2021. “Higher Education in the First Year of COVID-19: Thoughts and Perspectives for the Future.” *International Journal of Higher Education* 10 (3): 285. https://doi.org/10.5430/ijhe.v10n3p285.

Chaturvedi, K., D. K. Vishwakarma, and N. Singh. 2021. “COVID-19 and Its Impact on Education, Social Life and Mental Health of Students: A Survey.” *Children and Youth Services Review* 121 (February): 105866. https://doi.org/10.1016/j.childyouth.2020.105866.

Chen, J., N. Farah, R. K. Dong, R. Z. Chen, W. Xu, A. Yin, B. Z. Chen, A. Delios, S. Miller, X. Wan, and S. X. Zhang. 2021. “The Mental Health Under the COVID-19 Crisis in Africa: A Systematic Review and Meta-Analysis.” https://doi.org/10.1101/2021.04.19.21255755.

Chen, T., and M. Lucock. 2022. “The Mental Health of University Students during the COVID-19 Pandemic: An Online Survey in the UK.” *PLOS ONE* 17 (1): e0262562. https://doi.org/10.1371/journal.pone.0262562.

Chew, Q. H., K. C. Wei, S. Vasoo, H. C. Chua, and K. Sim. 2020. “Narrative Synthesis of Psychological and Coping Responses towards Emerging Infectious Disease Outbreaks in the General Population: Practical Considerations for the COVID-19 Pandemic.” *Singapore Medical Journal* 61 (7): 350–56. https://doi.org/10.11622/smedj.2020046.

Deng, J., F. Zhou, W. Hou, Z. Silver, C. Yi Wong, O. Chang, A. Drakos, Q. K. Zuo, and E. Huang. 2021. “The Prevalence of Depressive Symptoms, Anxiety Symptoms and Sleep Disturbance in Higher Education Students during the COVID-19 Pandemic: A Systematic Review and Meta-Analysis.” *Psychiatry Research* 301 (July): 113863. https://doi.org/10.1016/j.psychres.2021.113863.

Dodd, R. H., K. Dadaczynski, O. Okan, K. J. McCaffery, and K. Pickles. 2021. “Psychological Well-being and Academic Experience of University Students in Australia during COVID-19.” *International Journal of Environmental Research and Public Health* 18 (3): 866. https://doi.org/10.3390/ijerph18030866.

Eisenberg, D., E. Golberstein, and J. B. Hunt. 2009. “Mental Health and Academic Success in College.” *The B.E. Journal of Economic Analysis & Policy* 9 (1). https://doi.org/10.2202/1935-1682.2191.

Garcia, A., G. B. Powell, D. Arnold, L. Ibarra, M. Pietrucha, M. K. Thorson, A.Verhelle, N. B. Wade, and S.Webb. 2021. "Learned Helplessness and Mental Health Issues Related to Distance Learning Due to COVID-19." In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems*, 1–6. https://doi.org/10.1145/3411763.3451526

Government of South Africa. 2022. "Statement by President Cyril Ramaphosa on the Termination of the National State of Disaster in Response to the Covid-19 Pandemic." The Presidency, Republic of South Africa. April 4, 2022. Accessed 8 September 2022 https://www.thepresidency.gov.za/speeches/statement-president-cyril-ramaphosa-termination-national-state-disaster-response-covid-19-pandemic.

Gupta, R., and R. Agrawal. 2021. "Are the Concerns Destroying Mental Health of College Students?: A Qualitative Analysis Portraying Experiences amidst COVID-19 Ambiguities." *Analyses of Social Issues and Public Policy*, February, https://doi.org/10.1111/asap.12232.

Hagedorn, R. L., R. A. Wattick, and M. D. Olfert. 2021. "'My Entire World Stopped': College Students' Psychosocial and Academic Frustrations during the COVID-19 Pandemic." *Applied Research in Quality of Life*: 1–22. https://doi.org/10.1007/s11482-021-09948-0

Jackman, P. C., R. Sanderson, T. J. Haughey, C. E. Brett, N. White, A. Zile, K. Tyrrell, and N. C. Byrom. 2022. "The Impact of the First COVID-19 Lockdown in the UK for Doctoral and Early Career Researchers." *Higher Education* 84 (4): 705–22. https://doi.org/10.1007/s10734-021-00795-4.

Keyes, C.L.M. 2009. "Atlanta: Brief Description of the Mental Health Continuum Short Form (MHC-SF)." AAC&U. Accessed 8 September 2022 https://www.aacu.org/sites/default/files/MHC-SFEnglish.pdf.

Khan, M. A. 2021. "COVID-19's Impact on Higher Education: A Rapid Review of Early Reactive Literature." *Education Sciences* 11 (8): 421. https://doi.org/10.3390/educsci11080421.

Laher, S., K. Bain, N. Bemath, V. de Andrade, and T. Hassem. 2021. "Undergraduate Psychology Student Experiences during COVID-19: Challenges Encountered and Lessons Learnt." *South African Journal of Psychology* 51 (2): 215–28. https://doi.org/10.1177/0081246321995095.

Lebuso, S. 2022. "Timeline. A Look Back at the Past Two Years of Lockdown." *City Press*, March 27, 2022. Accessed 8 September 2022 https://www.news24.com/citypress/news/timeline-a-look-back-at-the-past-two-years-of-lockdown-20220323.

Li, Y., J. Zhao, Z. Ma, L. S. McReynolds, D. Lin, Z. Chen, T. Wang, D. Wang, Y. Zhang, F. Fan, and X. Liu. 2021. “Mental Health Among College Students During the COVID-19 Pandemic in China: A 2-Wave Longitudinal Survey.” *Journal of Affective Disorders* 281 (February): 597–604. https://doi.org/10.1016/j.jad.2020.11.109.

Maulana, H. A. 2021. "Psychological Impact of Online Learning during the COVID-19 Pandemic: A Case Study on Vocational Higher Education." *Indonesian Journal of Learning Education and Counseling* 3 (2): 130–39. https://doi.org/10.31960/ijolec.v3i2.833

McGaughey, F., R. Watermeyer, K. Shankar, V. R. Suri, C. Knight, T. Crick, J. Hardman, D. Phelan, and R. Chung. 2022. “‘This Can’t Be the New Norm’: Academics’ Perspectives on the COVID-19 Crisis for the Australian University Sector.” *Higher Education Research & Development* 41 (7): 2231–46. https://doi.org/10.1080/07294360.2021.1973384.

Mohammed, M. A., and K. Memmedova. 2023. “Prevalence of Mental Health Problems among Iraqi University Students during the COVID-19 Pandemic.” *Sustainability* 15 (3): 1746. https://doi.org/10.3390/su15031746.

Naidoo, P., and D. Cartwright. 2022. "Where to from Here? Contemplating the Impact of COVID-19 on South African Students and Student Counseling Services in Higher Education." *Journal of College Student Psychotherapy* 36 (4): 355–69. https://doi.org/10.1080/87568225.2020.1842279

Odriozola-González, P., Á. Planchuelo-Gómez, M. J. Irurtia, and R. de Luis-García. 2020. “Psychological Effects of the COVID-19 Outbreak and Lockdown among Students and Workers of a Spanish University.” *Psychiatry Research* 290 (August): 113108. https://doi.org/10.1016/j.psychres.2020.113108.

Oliveira, E. N., M. I. O. Vasconcelos, P. C. Almeida, P. J. de Almeida Pereira, M. S. C. Linhares, F. R. G. X. Neto, and J. M. N. Aragão. 2022. “Covid-19: Repercussions on the Mental Health of Higher Education Students.” *Saúde Em Debate* 46 (April): 206–20. https://doi.org/10.1590/0103-11042022e114.

Olson, R., R. Fryz, J. Essemiah, M. Crawford, A. King, and B. Fateye. 2021. “Mental Health Impacts of COVID-19 Lockdown on US College Students: Results of a Photoelicitation Project.” *Journal of American College Health*: 1–11. https://doi.org/10.1080/07448481.2021.1891921

Padmanabhanunni, A., and T. B. Pretorius. 2021. “The Unbearable Loneliness of COVID-19: COVID-19-Related Correlates of Loneliness in South Africa in Young Adults.” *Psychiatry Research* 296 (February): 113658. https://doi.org/10.1016/j.psychres.2020.113658.

Pandya, A., and P. Lodha. 2022. “Mental Health Consequences of COVID-19 Pandemic among College Students and Coping Approaches Adapted by Higher Education Institutions: A Scoping Review.” *SSM - Mental Health* 2 (December): 100122. https://doi.org/10.1016/j.ssmmh.2022.100122.

Paterson, M. 2021. “COVID-19 and Higher Education: Damage Done, Lessons Learnt.” *University World News*, February 11, 2021. Accessed 17 September 2022 https://www.universityworldnews.com/post.php?story=20210211103422612.

Pokhrel, S., and R. Chhetri. 2021. “A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning.” *Higher Education for the Future* 8 (1): 133–41. https://doi.org/10.1177/2347631120983481.

Pretorius, T., and A. Padmanabhanunni. 2021. “A Looming Mental Health Pandemic in the Time of COVID-19? Role of Fortitude in the Interrelationship between Loneliness, Anxiety, and Life Satisfaction among Young Adults.” *South African Journal of Psychology* 51 (2): 256–68. https://doi.org/10.1177/0081246321991030.

Prowse, R., F. Sherratt, A. Abizaid, R. L. Gabrys, K. G. C. Hellemans, Z. R. Patterson, and R. J. McQuaid. 2021. “Coping With the COVID-19 Pandemic: Examining Gender Differences in Stress and Mental Health Among University Students.” *Frontiers in Psychiatry* 12: 439. https://doi.org/10.3389/fpsyt.2021.650759

Rajkumar, R. P. 2020. “COVID-19 and Mental Health: A Review of the Existing Literature.” *Asian Journal of Psychiatry* 52 (August): 102066. https://doi.org/10.1016/j.ajp.2020.102066.

Sarasjärvi, K. K., P. H. Vuolanto, P. C. M. Solin, K. L. Appelqvist-Schmidlechner, N. M. Tamminen, M. Elovainio, and S. Therman. 2022. “Subjective Mental Well-Being among Higher Education Students in Finland during the First Wave of COVID-19.” *Scandinavian Journal of Public Health* 50 (6): 765–71. https://doi.org/10.1177/14034948221075433.

Sayeed, A., S. Kundu, Md H. Al Banna, M. T. Hasan, M. R. Begum, and Md S. I. Khan. 2020. “Mental Health Outcomes during the COVID-19 and Perceptions towards the Pandemic: Findings from a Cross Sectional Study among Bangladeshi Students.” *Children and Youth Services Review* 119 (December): 105658. https://doi.org/10.1016/j.childyouth.2020.105658.

Schleicher, A. 2020. “The Impact of COVID-19 on Education: Insights from ‘Education at a Glance 2020.’” *OECD Publishing*. Paris: OECD Publishing. Accessed 8 September 2022 https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf.

Serpas, D. G., and D. A. Ignacio. 2023. “COVID-19 Pandemic Psychological Distress, Multi-Dimensional Social Support, and Mental Health Symptoms Among Hispanic Undergraduates.” *Journal of Hispanic Higher Education*, January. https://doi.org/10.1177/15381927221147625.

Shabangu, C. 2021. “Survey Reveals Key Challenges Faced by Higher Education Students during Covid-19.” *Kempton Express* (blog). March 29, 2021. Accessed 17 September 2022 https://kemptonexpress.co.za/?p=307488.

Stracke, C. M., D. Burgos, G. Santos-Hermosa, A. Bozkurt, R. C. Sharma, C. S. Cassafieres, A. I. dos Santos, J. Mason, E. Ossiannilsson, J. G. Shon, M. Wan, J.-F. O. Agbu, R. Farrow, Ö. Karakaya, G. Cox, and V. Truong. 2022. “Responding to the Initial Challenge of the COVID-19 Pandemic: Analysis of International Responses and Impact in School and Higher Education.” *Sustainability* 14 (3): 1876. https://doi.org/10.3390/su14031876.

Tilak, J. B. G., and A. G. Kumar. 2022. “Policy Changes in Global Higher Education: What Lessons Do We Learn from the COVID-19 Pandemic?” *Higher Education Policy* 35 (3): 610–28. https://doi.org/10.1057/s41307-022-00266-0.

Topp, C. W., S. D. Østergaard, S. Søndergaard, and P. Bech. 2015. “The WHO-5 Well-Being Index: A Systematic Review of the Literature.” *Psychotherapy and Psychosomatics* 84 (3): 167–76. https://doi.org/10.1159/000376585.

Van Schalkwyk, F. 2021. “Reflections on the Public University Sector and the Covid-19 Pandemic in South Africa.” *Studies in Higher Education* 46 (1): 44–58. https://doi.org/10.1080/03075079.2020.1859682.

Visser, M., and E. Law-van Wyk. 2021. “University Students’ Mental Health and Emotional Well-being during the COVID-19 Pandemic and Ensuing Lockdown.” *South African Journal of Psychology* 51 (2): 229–43. https://doi.org/10.1177/00812463211012219.

Vogt, K., G. J. Jenny, and G. F. Bauer. 2013. “Comprehensibility, Manageability and Meaningfulness at Work: Construct Validity of a Scale Measuring Work-Related Sense of Coherence.” *SA Journal of Industrial Psychology* 39 (1): 8. https://doi.org/10.4102/sajip.v39i1.1111.

Wang, C., R. Pan, X. Wan, Y. Tan, L. Xu, C. S. Ho, and R. C. Ho. 2020. “Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China.” *International Journal of Environmental Research and Public Health* 17 (5): 1729. https://doi.org/10.3390/ijerph17051729.

Wyatt, T., and S. B. Oswalt. 2013. “Comparing Mental Health Issues Among Undergraduate and Graduate Students.” *American Journal of Health Education* 44 (2): 96–107. https://doi.org/10.1080/19325037.2013.764248.

Xiong, J., O. Lipsitz, F. Nasri, L. M. W. Lui, H. Gill, L. Phan, D. Chen-Li, M. Iacobucci, R. Ho, A. Majeed, and R. S. McIntyre. 2020. “Impact of COVID-19 Pandemic on Mental Health in the General Population: A Systematic Review.” *Journal of Affective Disorders* 277 (December): 55–64. https://doi.org/10.1016/j.jad.2020.08.001.

Zaleski, Z. 1996. “Future Anxiety: Concept, Measurement, and Preliminary Research.” *Personality and Individual Differences* 21 (2): 165–74. https://doi.org/10.1016/0191-8869(96)00070-0.