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Academic burnout, resilience level, and campus connectedness among undergraduate students during the Covid-19 pandemic: Evidence from Singapore

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Abstract

This study sets out to examine the level of academic burnout, resilience, and campus connectedness among undergraduates in Singapore. The data were collected from a total of 125 full-time undergraduates (75.6% response rate, 38% females, 62% males) from a public university in Singapore. The instruments used to measure academic burnout, resilience level, and campus connectedness are the Maslach Burnout Inventory-Student Survey (MBI-SS), the Academic Resilience Scale (ARS-30), and the Campus Connectedness Scale (CCS), respectively. The findings show that respondents on the whole had a moderate level of academic burnout, a high level of academic resilience, and campus connectedness. Female students reported a higher level of burnout, a marginally lower resilience level, and a higher level of campus connectedness than their male counterparts though there was no significant difference between the two groups. In addition, the findings indicate that there was no significant difference between the number of years enrolled in the university and the level of academic burnout, resilience level, and campus connectedness level. Further, the findings of this study show that academic burnout was negatively associated with resilience level and campus connectedness, and the resilience level was positively associated with campus connectedness. These findings provide direction for the university to redesign the assessment structure to support a blended learning environment and provide additional support to students facing academic burnout and undue stress from the pandemic.

Introduction

The Covid-19 pandemic took the world by storm and was an unprecedented challenge to the education system globally as it has impacted more than 1.7 billion students from 188 countries (Daniel, 2020; OECD, 2020). The 'new normality' (Tesar, 2020) began with many universities replacing face-to-face teachings with virtual remote learning (Basilaia & Kvavadze, 2020; Kuleva, 2020; Mulenga & Marban, 2020; Naciri et al., 2020; Sintema, 2020; Tzivinikou et al., 2020).

Educational researchers worldwide have been presenting studies examining the impact of the pandemic on students' academic performance, mental health, social connectedness, or life issues in China (Cao et al., 2020; Li et al., 2020; Tang et al., 2020; Wang & Zhao, 2020), France (Essadek & Rabeyron, 2020), Germany (Händel et al., 2020), India (Kapasia et al., 2020; Mahapatra & Sharma, 2020), Pakistan (Adnan & Anwar, 2020), the Philippines (Baloran, 2020), Saudi Arabia (Khan, 2020), Spain (Odriozola-González, 2020), Switzerland (Elmer et al., 2020), Ukraine (Nenko et al., 2020), the U.K. (Burns et al., 2020; Savage et al., 2020), the U.S. (Calhoun et al., 2020; Duong et al., 2020), and Vietnam (Tran et al., 2020). It appears that there is no study examining the wellbeing of undergraduate students in Singapore during the pandemic.

Academic burnout

Burnout is a psychological construct, and it was first introduced by Herbert Freudenberger (1974). He defined it as "to fail, to wear out, or become exhausted by excessive demands on energy, strength or resources" (p. 159). The term academic burnout was proposed by Nuemann et al. (1990) and was characterised by numerous traits such as exhaustion caused by excessive academic workload and expectations (academic fatigue), an increasing pessimism and lack of interest in school work (academic apathy), and having a weak personal development in educational affairs (academic inefficiency). Typical symptoms of academic burnout include disengaged in-class activities, not paying attention and feeling detached in class, high anxiety level over assessments, absenteeism, low morale, cynicism, and pessimism over academic success (Bikar et al., 2018; Demir et al., 2017; Naami 2009; Salami et al., 2017). It has a significant impact on students' performance (Garman et al., 2002; Villanova & Roman, 2002), mental health (Ahola et al., 2006; Eslami, 2011), motivation (Lee et al., 2020).

One of the most frequently employed measures of academic burnout is the Maslach Burnout Inventory-Student Survey (MBI-SS), a modified version of the MBI developed by Maslach & Jackson (1981). Prior studies employed the MBI-SS or its variant to examine academic burnout among undergraduate students in various countries such as China (Hu & Schaufeli, 2009; Zhang et al., 2005), Korea (Lee et al., 2020), Nigeria (Salami et al., 2017), South Africa (Friedman, 2014), Taiwan (Yang, 2004), or Turkey (Adoum, 2017; Tansel, 2015; Demir et al., 2017; Yavuz & Dogan, 2014; Yilmaz, 2009). For instance, Salami et al. (2017) employed the MBI-SS and Classroom Assessment Environment Scale (CAES) to examine the extent of the relationship between accountancy undergraduates' academic burnout and their perceptions of the classroom assessment environment in Nigeria. They reported that the level of academic burnout is positively associated with the increased perceived performance-based classroom assessment but negatively associated with the increased learning-based classroom assessment. More recently, Lee et al. (2020) employed an extended version of the MBI-SS where they included two additional dimensions: antipathy and anxiety, to examine the associations between specific burnout traits and motivation styles among Korean high school students. They found that distressed and well-functioning students were characterised by amotivation, internal motivation, and regulation. In addition, they reported that the struggling and laissez-faire students were classified as introjected and external regulation. However, both studies did not examine the association between academic burnout and gender, which has been widely reported in prior studies (e.g., Bikar et al., 2018; Demir et al., 2017; Gündüz et al., 2012; Kutsal & Bilge, 2012). For instance, using a sample of 406 students at Gazi University in Turkey, Bikar et al. (2018) examined the relationship between academic burnout and gender. They found male students reported a high level of academic burnout compared to their female counterparts. Their findings were also echoed by earlier studies conducted by Michaeli et al. (2014), Zahedbablaan et al. (2014), and Tansel (2015). On the contrary, Gündüz et al. (2012) and Yilmaz (2009) reported that female students were experiencing a high level of academic burnout than male students. Other studies reported there was no significant difference between the male and female students concerning academic burnout (Adoum, 2017; Azimi & Piri, 2013; Demir, 2017; Kutsal & Bilge, 2012; Marzoughi et al., 2013). Thus, it is inconclusive whether there is a significant difference in academic burnout between gender which calls for further examination.

Since the outbreak of the Covid-19 pandemic in December 2019, several studies were conducted to examine students' anxiety and academic burnout (Fernández-Castillo, 2021; Labrague & Ballad, 2020; Moreno-Fernandez et al., 2020; Sundarasen et al., 2020). Thus, it would be interesting to examine how the undergraduate students in Singapore cope during the pandemic and whether there is any significant difference in academic burnout between male and female students in Singapore.

Academic resilience

There has been growing research on university students' wellbeing and ability to cope with their studies during the pandemic (Aristovnik et al., 2020; Bono et al., 2020; Browning et al., 2021; Burns et al., 2020; Cao et al., 2020; Copeland et al., 2021; Kecojevic et al., 2020; Labrague et al., 2021; Waters et al., 2021; Yang et al., 2021; Zhang et al., 2020). Martin (2013) defined academic resilience as "a capacity to overcome acute and/or chronic adversity that is seen as a major threat to a student's educational development" (p. 488). It has gained momentum and recognition in schools as a framework to evaluate students' ability to bounce back from adversity to flourish within the university environment (Hartley, 2012; McGillivray & Pidgeon, 2015; Pidgeon et al., 2014; Seligman et al., 2009; Stallman, 2010). With an increasing level of academic stress and psychological distress, positive

psychology scholars argued that promoting resilience is crucial in reducing mental ill-health, improving academic performance, coping better with burnout and adversity, and enriching university experience (Bartley et al., 2010; Fallon, 2010; Gray, 2015; Hartley, 2011, 2012; Kilbert et al., 2014; Khawaja & Stallman, 2011; Lerner, 2006; McLafferty et al., 2012; Steinhardt & Dolbier, 2008).

Steinhardt and Dolbeir (2008) argued that academic, interpersonal, and environmental changes faced by students during their transition from high schools to universities had increased their stress and coping ability, resulting in a rising number of psychological disorders and emotional instability cases. Their views are also echoed by Hartley (2011), who pointed out that university life is often characterised by stressors such as high-stake summative assessments, relatively little academic support as students are expected to be more independent in their learning and taking on more personal and academic responsibility, facing isolation and even loneliness during the transition. Thus, promoting resilience among undergraduates is of paramount importance to align their educational goals with positive personal development and life satisfaction (Campbell-Sills et al., 2006; Li & Yang, 2006; Maddi, 2008).

Prior studies employed various instruments such as the Wagnild and Young's (1993) Resilience Scale (RS-14) (Fernandes et al., 2018; Gómez-Molinero et al., 2018; Jones, 2020; McGillivray & Pidgeon, 2015; Pidgeon et al., 2014), Connor and Davidson's (2003) Conner Davidson Resilience Scale (Buren, 2019; Debb et al., 2018), Smith et al.'s (2008) Brief Resilience Scale (Parker, 2018) to measure resilience level among college and university students. For instance, McGillivray and Pidgeon (2015) employed the RS-14 to examine the resilience level among Australian students aged between 18 to 57 years. They reported that students possessing a higher level of resilience displayed a lower level of psychological distress and a higher level of mindfulness. Pidgeon et al. (2014) also employed the RS-14 to examine the resilience level among 214 university students based in Australia, the U.S., and Hong Kong. They found that students with a higher level of resilience reported a higher level of social support and campus connectedness but a lower level of psychological distress. More recently, Buren (2019) employed the Connor Davidson Resilience Scale to study 70 students enrolled in a leadership program to examine their resilience level. She found that the relationship between the number of leadership program activities and each of the five resilience factors (persistency and tenacity; emotional and cognitive control; adaptability and bounce back; control; spiritual influence) was not significant. She also found no significant difference in resilience scores among gender, age, and student status (freshman and sophomore, junior, senior).

Hoge et al. (2007) noted that while each of the existing instruments purports to measure resilience, there is an inherent difficulty in defining the notion of resilience. Thus, there is little consensus on which of these instruments best applied and quantifies the resilience construct. While many universities were instructed by the government to offer online learning, students were facing the challenges of learning from home, students' anxiety, stress, and mental emotions were exacerbated during the pandemic (Zhang et al., 2020). Examining their resilience level may assist the development of suitable positive education programs in supporting their wellbeing and improving their coping ability.

Campus connectedness

Prior studies reported that having a sense of belonging to the university, educators, and other students is crucial in improving academic engagement and achieving better assessment performance (Astin, 1999; El-Ghoroury et al., 2012; Finn, 1989; O'Keefe, 2013; Robbins et al., 1993; Schlemper, 2011). This sense of belonging is referred to as campus connectedness, where scholars examined the extent of students' involvement and social connectedness in the university environment (Lee & Davis, 2000; Lee et al., 2002; Summers et al., 2002).

Prior studies examined various factors that may influence campus connectedness, which includes gender (Anderman & Anderman, 1999; Belenky et al., 1986; Furrer & Skinner, 2003; Olson & Shultz, 1994; Summers et al., 2002), ethnicity (Clark et al., 2012; Curtin et al., 2012; Johnson et al., 2007; Stebleton et al., 2010), life satisfaction (Karhbet, 2015; Karhbet et al., 2015; Matheny et al., 2008), number of years in school (Karhbet et al., 2015; Summers et al. 2002). For instance, Summers et al. (2002) sampled 3,900 undergraduate students from the University of Texas at Austin to examine the relationship between campus connectedness and diversity, using the Campus Connected Scale (CCS) developed by Lee and Robbins (1998). They reported that female students experienced a significantly higher level of campus connectedness and more openness to diversity than their male counterparts. Their findings are consistent with those reported by Belenky et al. (1986) and Furrer and Skinner (2003).

The above studies were conducted before the pandemic, and research on campus connectedness during the pandemic among undergraduate students is scarce. Thus, this study would examine predictors of campus connectedness, including gender and resilience. It will be interesting to investigate how students feel during the pandemic when they attended more online classes than physical classes, limiting their interaction with their peers, faculty, and campus facility.

Current study

The purpose of the study is to examine the level of academic burnout, resilience, and campus connectedness among undergraduates from a public university in Singapore. The hypotheses for this study are as follows:

H1a: There is no significant difference in the level of academic burnout between female and male students.

H1b: There is no significant difference in the level of resilience between female and male students.

H1c: There is no significant difference in the level of

campus connectedness between female and male students.

H2a: There is no significant difference in the level of academic burnout between number of years enrolled in the university.

H2b: There is no significant difference in the level of resilience between number of years enrolled in the university.

H2c: There is no significant difference in the level of campus connectedness between number of years enrolled in the university.

H3: There is a significant negative correlation between academic burnout, resilience level, and campus connectedness among undergraduate students.

Thus, it is believed that this is the first study examining the level of academic burnout, resilience, and campus connectedness among undergraduate students in Singapore during the pandemic. The findings from this study will provide opportunities for universities to implement effective interventions to support students' learning and coping with their university life during the pandemic. In addition, the findings will benefit educators to promote resilience and manage students' expectations for them to adapt and bounce back swiftly from adversity.

Method

Participants

The sample undergraduates were recruited from a public university in Singapore. The study employed a self-administered questionnaire, which includes demographic variables such as gender, course, and year of study. An invitation letter to the participants for this study was emailed to 176 full-time undergraduates who were the students of the researcher during the pandemic (March 2020 to June 2021). A total of 133 students responded and agreed to participate, which constituted a response rate of 75.6%. The final sample size comprised 125 full-time undergraduates (47 females, 78 males). These undergraduates are currently in their first (14.4%), second (18.4%), third (40.8%), and fourth year (26.4%) of their studies in the business (84%), engineering (8.8%), science (4.8%), humanities, arts and social sciences (2.4%).

Instruments

To measure the participants' academic burnout, the Maslach Burnout Inventory-Student Survey (MBI-SS), which comprises a 15-item scale with a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), was used to measure each item. To examine students' resilience level, the Academic Resilience Scale (ARS-30) developed by Simon Cassidy (2015, 2016) was used, based on students' specific adaptive cognitive-affective and behavioural responses to academic adversity. As the ARS-30 is a relatively new resilience scale developed in the context-specific construct evaluating students' academic resilience based on their responses to academic diversity, it is believed that the scale will be relevant in the pandemic where students experienced a different level of psychological reactions. Essentially, the ARS-30 comprises 30 items along a 5-point Likert scale from strongly disagree to strongly agree. In line with other instruments employed in this study, a 7-point Likert scale will be used in the ARS-30.

In line with prior studies conducted by Summers et al. (2002) and Pidgeon et al. (2014), the Campus Connectedness Scale (CCS) was employed to examine the level of campus connectedness. However, a 7-point Likert scale was used instead of the original version of the 6-point Likert scale. This is to minimise confusion and frustration for participants where all the three instruments employed in this study are based on a 7-point Likert scale. Negatively worded items in the three instruments are reverse-scored so that high scores indicate lower level of burnout, higher level of academic resilience, and higher campus connectedness across all items in the MBI-SS, ARS-30, and CCS, respectively.

Results

The overall mean score on the three instruments suggested that students on the whole had a moderate level of academic burnout (M = 3.86, SD = 0.82), high level of academic resilience (M = 4.70, SD = 0.61), and a high sense of campus connectedness (M = 4.36, SD = 1.20). The estimates of internal consistency measured by the Cronbach's alpha were fairly high (MBI-SS = 0.85, ARS-30 = 0.85; CCS = 0.93).

In terms of academic burnout, female students reported a higher level of burnout than their male counterparts though there was no significant difference between the two groups (female: M = 3.75, SD = 0.79; male: M = 3.92, SD = 0.82; t = 1.127, p = 0.506). With respect to resilience level, female students reported a marginally lower level than male students though there was no significant difference between the two groups (female: M = 4.62, SD = 0.64; male: M = 4.75, SD = 0.59; t = 1.154, p = 0.840). For campus connectedness, female students reported a higher level than the male students, though there was no significance difference between the two groups (female: M = 4.42, SD = 1.04; male: M = 4.32, SD = 1.29; t = -0.504, p = 0.051).

Table 1 displays the means and standard deviation between students' academic progression and their academic burnout, resilience level, and campus connectedness level. The mean scores for academic burnout ranged from 3.72 to 4.15, while the resilience level and campus connectedness among each group of students were relatively close, ranging from 4.60 to 4.83 and 4.22 to 4.59, respectively. The fourth-year students' academic burnout level is the lowest, suggesting they face relatively more pressure from their studies than their junior counterparts. The second-year students recorded the highest resilience level and campus connectedness. It may be noted that as students progressing to their academic journey, their resilience level and campus connectedness level were declining.

Table 1. Summary of means and standard deviations for academic burnout, resilience level, and campus connectedness level among students with different academic progression (N = 125).

		Academic Burnout		Resilience Level		Campus Connectedness	
	N	Mean	SD	Mean	SD	Mean	SD
First Year	18	4.15	0.70	4.67	0.51	4.22	1.17
Second Year	23	3.74	0.65	**4.83**	0.61	**4.59**	1.13
Third Year	51	3.89	0.84	4.73	0.67	4.38	1.22
Fourth Year	33	**3.72**	0.92	4.60	0.58	4.24	1.24
Overall	125	3.86	0.81	4.70	0.61	4.36	1.20

A series of one-way analysis of variance (ANOVAs) was conducted to examine any significant differences between the number of years enrolled in the university and academic burnout, resilience level, and campus connectedness. In line with the hypothesis, there was no significant difference found between these samples, on academic burnout $F(3, 125) = 1.32$, $p = 0.272$, resilience level $F(3, 125) = 0.69$, $p = 0.561$, or campus connectedness $F(3, 125) = 0.49$, $p = 0.691$.

Pearson's correlations were performed on academic burnout, resilience level, and campus connectedness, as summarised in Table 2. In line with the hypothesis, the results indicated that academic burnout has a negative association with resilience level ($r = -0.63$, $p < 0.001$), and also a negative association with campus connectedness ($r = -0.37$, $p < 0.001$), suggesting as scores on academic burnout decrease, the scores on resilience and campus connectedness also increased. In addition, resilience level also depicted a positive association with campus connectedness ($r = 0.45$, $p < 0.001$), inferring that, as scores on resilience increase, scores on campus connectedness increased.

Table 2. Summary of intercorrelations, means, and standard deviations for academic burnout, resilience level, and campus connectedness (N = 125).

Variable	1	2	3	Mean	SD
1. Academic burnout	-			3.86	0.82
2. Resilience level	-0.63**	-		4.70	0.61
3. Campus connectedness	-0.37**	0.45**	-	4.36	1.20

*** p < 0.001*

Discussion

This study examined academic burnout, resilience, and campus connected level during the Covid-19 pandemic among undergraduate students in Singapore. The findings suggested that students had a moderate level of academic burnout, a high level of academic resilience and campus connectedness.

The findings reported that female undergraduates experienced a higher level of burnout than male undergraduates though there was no significant difference between the two groups. These findings are consistent with those reported in the prior studies (Adoum, 2017; Azimi & Piri, 2013; Demir, 2017; Kutsal & Bilge, 2012; Marzoughi et al., 2013). Sundarasen et al. (2020) argued that female students faced a higher level of stress and anxiety during uncertain times such as the pandemic. Thus, they may express a higher level of academic burnout and having fewer coping strategies. However, two-thirds of the sample size comprises third and fourth-year students, and regardless of gender, they may have concerns over finding a full-time job upon graduation as the pandemic is far from over.

Concerning academic resilience, the findings reported that female students have a marginally lower level than male students though there was no significant difference between the two groups. A closer examination of the responses in the ARS-30 indicated that the mean scores of several statements such as "I would work harder", "I would see the situation as temporary", "I would try different ways to study", and "I would look forward to showing that I can improve my grades" were relatively high, ranging from 5.51 to 5.68. The university has provided additional support to students during the pandemic, including a lower weightage assigned to summative assessments, counseling services for students who were emotionally drained, remotely learning with regular tutors' support, deferred or installment payments of tuition fees for students who were unable to pay promptly due to loss of jobs or reduced income suffered by their parents. The support provided may have motivated the students to stay resilient.

Based on the responses gathered from the CCS, it appears that the campus connectedness among students during the pandemic was moderate, and there was no significant difference between male and female students. This could be attributable to the fact that the Ministry of Education has implemented a mandatory lockdown period for schools in Singapore between April and June 2020, where home-based learning took effect for all students (Gov.sg, 2020). The university adhered to the government policies and, taking into consideration of the students' safety, most of the lessons will be conducted online with restrictive campus access between June and October 2020. The respondents felt isolated during these periods as evidenced from their responses for items in the CCS, including "I have no sense of togetherness with my peers", "There is no sense of brother/sisterhood with my college friends", "I feel disconnected from campus life", and "I don't feel I participate with anyone or any group". Due to travel restrictions imposed by many countries and Singapore, there was a decline in the admission of international students. Consequently, this has restricted the opportunity for the local students to interact and learn from a diverse group of students from different countries, which may have contributed to a low scoring for "I feel so distant from other students" and "I am able to make connections with a diverse group of people".

The findings from this study indicated that there was no significant difference between the number of years enrolled in the university and the level of academic burnout, resilience level, and campus connectedness level. The findings suggested that fourth-year students experienced a high academic burnout and resilience level as they reported the lowest mean scores. This may be attributable to the fact that these final-year students were worried about graduates' job prospects amid the pandemic (Teng & Ang, 2020; Teng, 2020). Conversely, first-year students reported the lowest level of academic burnout during the pandemic. As these students just started their undergraduate studies with a relatively lighter workload and many of the modules were not examinable, they may experience a somewhat

lower level of academic burnout. In addition, they will not be entering the job market or looking for internships (which usually takes place in the second and third year of studies). Thus, they are not subject to the pressure of looking for full-time jobs faced by the graduating students. With regard to campus connectedness, Karhbet (2015) found that there is a positive relationship between the years of enrolment with the university and the level of campus connectedness. However, the findings in this study reported otherwise, where the level of campus connectedness declined from the second year onwards. One possible reason could be that many of the students had internships in their second, third and fourth year, and thus reported a relatively lower level of campus connectedness. In addition, some of the students were taking more electives in their third and fourth year of study, where most of these electives were having online classes, thus reporting a lower level of campus connectedness among these groups of students.

The findings of this study indicated that academic burnout was negatively associated with resilience level and campus connectedness. Home-based learning and lockdown measures imposed by the government may threaten university students' mental anxiety and emotional health, impacting their academic performance and educational progress (Al Omari et al., 2020; Husky et al., 2020; Singh et al., 2020). Adequate personal resilience and support from schools are crucial for the students to cope with the adverse effects brought by the pandemic (Elmer et al., 2020; Liang et al., 2020; Ye et al., 2020). The findings also reported a positive association between resilience level and campus connectedness, which is consistent with the results reported by Pidgeon et al. (2014). Prior studies reported that campus connectedness is often regarded as a positive contributor to students' academic resilience and motivation to excel in their studies, especially those in their transition to university (Lee & Robbins, 2000; Pitman & Richmond, 2008).

Implications and recommendations

As Singapore is approaching a new normal in the post-Covid-19 era, there is a need for the university to consider education anew given the emerging opportunities and challenges (Cahapay, 2020). Prior studies found that students suffered from mental stress and anxiety of varying degrees brought by the pandemic, which have a significant impact on their learning and academic performances (Aristovnik et al., 2020; Copeland et al., 2021; Essadek & Rabeyron, 2020; Li et al., 2020; Savage et al., 2020). During the lockdown period, students are expected to take their assessments at home or remotely. To reduce students' anxiety and academic burnout, the university may consider reviewing the curriculum and assessment that suit a blended learning environment. While recognising the importance of having assessments that align with the learning outcomes, scholars argued that the opportunity to learn (OTL) is perceived as a threat to test scores' reliability and comparability (DePascale & Gong, 2020; Keng & Marion, 2020). To minimise OTL loss caused by Covid-19 related stress and to take into consideration of diverse cultural, social, and learning abilities of students, the assessment committee may review existing literature to identify operational psychometric procedures and redesign assessments that integrate theoretical concepts and job-related skills, knowledge, and abilities with evidence of fairness, reliability, and validity (Keng & Marion, 2020). In addition, the university is mindful that the assessment activities need to align to the module learning outcome and should be cognizant of connectivity, equity, security, privacy concerns, and are easily administered under different modes such as on-campus and remotely or virtually at an off-campus location (Jimenez, 2020; Khan & Jawald, 2020; Wiley & Buckendahl, 2020). Assessment design to shorten the feedback loop, minimise cheating, and secure assessment content is crucial (Arbuthnot, 2020; Langenfeld, 2020). The switch to online assessments saw "test pollution" where students were worried about their academic performance, which may lower their overall Grade Point Average as they are forced to learn and be assessed in a different method from the traditional final exam (Chalak & Tavakoli, 2010; Middleton, 2020). Prior studies reported that online remote proctored assessments created undue pressure (Lilley & Barker, 2016; Stowell & Benenett, 2010), invasion of personal privacy (Weiner & Hurtz, 2017), and students' withdrawal (Karim & Behrend, 2014). The university may employ a Multi-tiered Systems of Support or Response-to-Intervention framework to identify students who may need urgent intervention to help them cope with their learning caused by the assessment changes (Wyse et al., 2020). Additional support is given to students from low-income families where laptops and internet access are provided to ensure fairness and equity for online learning and assessments (Langenfeld, 2020).

The university may also invest in training and development for the faculty on online classroom facilitation and students' management. Instructors need to show more empathy for students facing academic burnout and emotional stress caused by the pandemic. More support such as hotline support, counselling and mentoring may be provided to students with high absenteeism rates or who have suffered a decline in interest in studying. Career coaching may also be provided to students facing challenges in resume writing and interviews, both remote and physical. Further, the university may also invite mindfulness and positive psychology practitioners to offer students advice on coping with stress and academic burnout during the pandemic.

As the pandemic situation improves, the university may gradually implement a hybrid learning model where students may be divided into two groups: one having physical class and the other attending lessons remotely and switching the two groups on a weekly or monthly basis. This may promote campus connectedness with more physical interaction between students and faculty members and also among themselves. Subject to social distancing and safety measures imposed by the government, the university may also raise students' campus connectedness by organising social events such as fundraising, performances, exhibitions, and career fairs within the campus to encourage students to participate.

Limitations and future studies

This study comes with a few limitations. First, the sample was selected from a single university and focus entirely on full-time undergraduates. Thus, the findings are not representative of students from other universities and private higher education institutions in Singapore and other countries. Second, the study did not gather data from full-time and part-time postgraduate students who may possess a different level of academic burnout, resilience, and campus connectedness. Third, the study employed pure quantitative research with self-reported scales using three instruments that may be subject to response bias. Thus, further research, both quantitative and qualitative (interviews and focus groups), may be conducted to examine academic burnout, resilience level, and campus connectedness during the pandemic among full-time and part-time undergraduates and postgraduates in public universities and private higher education institutions. Students may be probed on their relationships with their classmates, faculty, administrative staff, family, and friends and what kind of support they require to cope more effectively during the pandemic. In addition, future studies could also examine to what extent the faculty members and other employees are coping well in schools during the pandemic. Since the variables in this study (academic burnout, resilience, and campus connectedness) may change over time, longitudinal studies may also be considered to evaluate students and faculty resilience levels during and post-pandemic.

Conclusion

Although more than 90 percent of the population have been fully vaccinated, the university continues to be vigilant, and strict social distancing measures are imposed on all students and staff in campus and classrooms. As the pandemic is far from over, the university will continue to devise strategies that provide students equal opportunities for online learning and assessment. The employment of technology for blended learning and online assessment will continue to play a pivotal role in a student-centric learning environment (Rajhans et al., 2020). The adoption of online modalities such as digitalised virtual classroom (Sintema, 2020), online education (Basilaia & Kvavadze, 2020), mobile learning (Naciri et al., 2020), and digital learning (Mulenga & Marban, 2020) may be the new standard in the post-pandemic era for the university. Ongoing emotional support and financial assistance to students, actively engaging with employers for internships, and full-time job opportunities remain the key priorities and commitment of the university.

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