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Academic burnout among Open Distance e-Learning students during the COVID-19 pandemic

Abstract

The transition to online learning at a time of intensive efforts to ensure that the academic project continued under the trying conditions brought on by the COVID-19 pandemic placed intense pressure on both staff and students, increasing their workload. The increased workload placed students at a risk of burnout. While most burnout research focuses on the workplace, there is growing recognition that study activities can have a similar impact on students. The study drew on the conceptualisation of various authors on burnout which is conceived as three sub-domains, namely, emotional exhaustion, cynicism and feelings of low accomplishment or inefficacy. This study made use of a cross-sectional survey design. The sample for the study was drawn from students at an Open Distance e-Learning (ODeL) institution in South Africa using a census sampling approach. The findings of this study show relatively low levels of burnout and high levels of study engagement among respondents. This is despite most respondents reporting being employed while studying. Furthermore, the relationship between dropout intention and burnout was weak but significant. Further areas of research in this field could include students from contact institutions, or a focus on postgraduate students who are employed while studying or explore gender differences among students in different fields of study.

Keywords: *Academic burnout, study engagement, online distance education, COVID-19 teaching transitions, Utrecht Work Engagement Scale for students, Oldenburg burnout inventory for students.*

1. Introduction

The transition to online learning at various institutions marked a time of intensive efforts to ensure that the academic project continued under the trying conditions brought on by the COVID-19 pandemic (Mishra, Sahoo & Pandey, 2021). Prior to COVID-19, at the institution under study, the conditions for online learning were in place but not widely used and assessment was primarily conducted in brick and mortar facilities. A swift transition to fully online examinations had to take place as the regulations governing the state of lockdown made physical examinations unfeasible. This transition disrupted the academic year and

required academics to develop new examinations, assessment plans and tuition plans to accommodate the changes in circumstances. One of the changes made at the institution was a mass shift to continuous online assessment.

This change resulted in an increased assessment workload for students where those taking a full academic workload faced the possibility of completing up to 100 assessments (10 per module) over the course of a year (Fynn & Mashile, 2022). Distance and e-Learning (ODeL. The institution under study consists of a large proportion of students who work full-time (40%) and a further 46% who are classified as unemployed, which means that while they are not employed they may still be engaged in seeking income generating opportunities. This trend is not exclusive to the institution under study as the number of students who combine work and study have increased worldwide (Creed *et al*., 2022). These students not only carry the burden of their academic workload but also have to manage maintaining paid work and the responsibilities of family life (Jones, Samra & Lucassen, 2021). Developing effective coping mechanisms to manage these multiple, demanding roles can mitigate the impact of burnout among students. These coping mechanisms can be developed through effective and consistent support from the institution. However, Makoe and Nsamba (2019) point out that distance education students, typically considered non-traditional students as is the case in this paper, often receive inadequate support which may cause them to abandon their studies.

Online distance education students at the institution under study faced several factors that could put them at risk of academic burnout. As mentioned below, burnout can have detrimental effects on students' academic performance. Therefore, it was necessary to determine not only the prevalence of burnout symptoms among this population but also their levels of study engagement during the teaching transitions brought on by the Covid-19 pandemic.

2. Burnout

Maslach, Schaufeli and Leiter (2001) stated that burnout is a prolonged response to chronic emotional and physical stressors on the job. Burnout is a chronic ongoing reaction to one's work, which is typically a negatively affective state that is not immediately reversible by taking rest or changing activity (Demerouti *et al*., 2002) at the same time contributing to the understanding of the development of burnout as a long-term effect of impairing work and job design. Demerouti *et al*. (2002) further argue that burnout is a chronic mental health impairment characterised by enduring physical, cognitive and emotional deterioration.

Burnout has three components, namely emotional exhaustion, cynicism and feelings of low accomplishment or inefficacy (Cheng *et al.*, 2020; Jackson *et al*., 1998; Leiter & Maslach, 2017; Maslach *et al.,* 2001; Taris, Schreurs & Van Iersel-Van Silfhout, 2001). The exhaustion component represents the individual experience of being overextended and depleted physically and emotionally (Maslach *et al.*, 2001; Maslach & Leiter, 2017). In this phase individuals feel drained, used up without any source of replenishment, and lack the energy to face another day or problem (Maslach & Leiter, 2017; Robins, Roberts & Sarris, 2018). The exhaustion component is the most frequently reported symptom of burnout and is often the first sign that people are having a problem (Maslach & Leiter, 2017). Exhaustion is seen to prompt individuals to distance themselves from the workplace cognitively and emotionally.

Cynicism refers to the development of negative tendencies toward work, creating a pessimistic attitude resulting in negative behaviours toward work activities (Tajeri Moghadam, Abbasi & Khoshnodifar, 2020). Depersonalisation, as part of cynicism, is seen as an attempt

to put distance between the self and service recipients by ignoring qualities that make them unique individuals and rather perceive recipients as objects of one's work (Aguayo *et al*., 2019) as students must cope with a variety of academic, social and personal challenges. If these demands persist, and if there are insufficient resources with which to address them, they will eventually provoke stress. When stress is present for long periods of time, it can lead to academic burnout syndrome, the signs of which are emotional exhaustion, depersonalisation and inadequate personal accomplishment. This paper considers certain sociodemographic factors (age, sex, children, marital status, employment status, degree subject, faculty, academic year). Distancing is such a common and immediate reaction to exhaustion that research has established consistent links between cynicism and exhaustion (Byrne *et al*., 2013; Maslach *et al*., 2001; Watts & Robertson, 2011) which is particularly prominent for staff in human service sectors. Burnout reactions have been characterised as the depletion of emotional reserves (emotional exhaustion). The inefficiency or lack of accomplishment component refers to feelings of incompetence and a lack of productivity at work (Maslach *et al*., 2001; Schwarzer, Schmitz & Tang, 2000). According to Maslach *et al.* (2001), a workplace with chronic, overwhelming demands is likely to erode an individual's sense of effectiveness relative to his or her job function. This component may arise as a result of exhaustion, cynicism or both or may develop in parallel, particularly in working conditions where there is a chronic lack of resources.

3. Academic burnout

While there is a substantial amount of research into burnout among working populations, there has been relatively little study of the burnout phenomenon among student populations although there has been an increase in attention on the issue more recently (Asikainen *et al*., 2020a; Stoeber *et al*., 2011; Tajeri Moghadam *et al*., 2020; Vizoso, Arias-Gundín & Rodríguez, 2019) few studies have investigated passion for studying and the role passion for studying plays in student engagement and well-being. The present study investigated the relationships between harmonious and obsessive passion for studying and academic engagement (vigour, dedication and absorption. Studies on burnout among students focus heavily on medical students (Aghajari *et al*., 2018; Cheng *et al*., 2020; Chong *et al*., 2020; Lee, Choi, & Chae Lee, 2017) and there have been relatively fewer studies that focus on general student populations. There is growing recognition, that while students may not typically be formally employed, their studies include mandatory activities, such as submitting assignments, class attendance, etc., that can be considered work (Stoeber et al., 2011; Wei, Wang, & Macdonald, 2015).

Research on academic burnout among university students shows that burnout is associated with poor academic performance (Aghajari *et al.*, 2018; Asikainen *et al.*, 2020a; Stoeber *et al.*, 2011). Academic burnout is defined as an experience characterised by feelings of emotional, physical and cognitive exhaustion and an attitude of withdrawal and detachment from one's studies (Reis, Xanthopoulou & Tsaousis, 2015). In this definition, the demands that students face are likely to produce feelings of exhaustion when they exceed the resources that the student has available to address these demands (Bakker & Demerouti, 2007; Reis *et al.*, 2015; Xanthopoulou *et al.*, 2007). The cynicism sub-domain, in particular, is viewed as detrimental to study engagement and worsens poor study performance. Cynicism is believed to lead to feelings disinterested toward academic work such as assignments, class attendance and assessments (Pouratashi & Zamani, 2018). Wei *et al*. (2015) stated that cynicism, one of the academic burnout symptoms, is caused by frustration and negative beliefs due to unmet expectations. In other words, cynical attitude among students is a negative belief caused by

mismatched expectations between what the student expected from college/university life and what they are experiencing (Asikainen *et al.*, 2020a; Wei *et al.*, 2015). Cynicism can hold both positive and negative aspects and, as such, can be viewed as a positive coping mechanism against a world that is less than it should be (Wei *et al.*, 2015). The negative outcomes of cynicism include poor performance and deliberate physical and psychological withdrawal from studies (Wei *et al.*, 2015).

Another factor that can influence the prevalence or impact of academic burnout is boundary flexibility where students, particularly working students, are able to shift the boundaries of their work, family and study lives to adapt to changing conditions (Creed *et al*., 2022). Creed *et al*. (2022) stated that students who can control the organisation of their work and study activities experience less stress and reduce the potential for burnout.

4. Study engagement

Engagement is viewed as a positive, work/study-related, persistent cognitive-affective state that is not focused on a single situation or object (Schaufeli *et al.,* 2002). Engagement, more broadly, consists of three key areas, namely vigour, dedication and absorption (Bakker, Albrecht & Leiter, 2011; Schaufeli *et al.,* 2002; Vizoso *et al.*, 2018). Vigour is characterised by high levels of energy and resilience despite challenges or obstacles and the willingness to invest in one's work (Bakker *et al.*, 2011; Schaufeli *et al.,* 2002). Dedication is characterised by "a sense of significance, enthusiasm, inspiration, pride, and challenge" (Schaufeli *et al.,* 2002: 456), while absorption is characterised by concentrating fully and being engrossed in one's work so that time passes by swiftly (Vizoso *et al.*, 2018). Employees with higher levels of engagement are physically healthier, experience more satisfaction of their psychological needs and are more committed than those with low engagement (Borst, Kruyen, & Lako, 2019). Given that study engagement and work engagement are premised on the same construct, namely engagement, it stands to reason that these findings would extend to students as well. Research on study engagement has included examining the role of psychological capital, which refers to the self-efficacy, optimism, hope and resilience of students (Barratt & Duran, 2021; Vîrgă, Pattusamy & Kumar, 2020), student motives for attending university (Hyytinen *et al.*, 2022), the impact of Covid-19 (Salmela-Aro *et al*., 2022), learning styles (Asikainen *et al.,* 2020b), work-study boundary flexibility (Creed *et al.*, 2022).

There is a paucity of research on burnout among students which could inform academic workloads and student wellness initiatives. Given the negative impact that academic burnout could have on performance and health, it is therefore imperative to develop a fuller understanding of the prevalence of academic burnout.

5. Research questions

To address the issues raised in the last paragraph above, the following research questions were raised:

1. What is the prevalence of burnout symptoms among distance education students during the transition to fully online learning?
2. Do burnout symptoms predict the level of student engagement?
3. Does burnout predict the likelihood of future dropout as measured by dropout intention?
4. Does study engagement predict the likelihood of future dropout as measured by dropout intention?

In the pursuit of answering the above questions, the following hypotheses will be tested:

1. Hypothesis 1: There is a negative relationship between study engagement and dropout intention
2. Hypothesis 2: Study engagement negatively predicts dropout intention
3. Hypothesis 3: There is a positive relationship between burnout and dropout intention
4. Hypothesis 4: Burnout positively predicts dropout intention

6. Method

This study adopted a cross-sectional, survey design as it aimed to draw on a cross-section of students from the institution to ascertain the impact of the shift to online learning during the transition to online learning. Cross sectional surveys are flexible, relatively quick to implement, inexpensive, lend themselves to hypothesis testing and allow researchers to conduct studies where information is needed about what is happening currently (Connelly, 2016).

6.1 Sample

The population for this study were all undergraduate and Honours students at the unit of study. The objective of this study is to ascertain the impact of the transition to online learning among students. While it should be acknowledged that Master's and Doctoral students may also have been exposed to conditions that could lead to burnout, the purpose of this paper was to focus on undergraduate and Honours students.

The institution from which the participants were recruited had enrolled approximately 360 971 undergraduate and Honours students in 2020. The sample for this study is 10% of the population, which equates to 36 000 students.

6.2 Data collection

Data collection was conducted online through anonymous surveys. Students were sent an anonymous e-mail invitation to participate in the study. The e-mails were sent by the ICT department on behalf of the researcher to preserve anonymity. The platform used for data collection, Qualtrics, has been used in numerous studies based at the institution and meets the security and privacy requirements of the institution.

6.3 Instrument

The instruments used in this study are the demographics inventory, Oldenburg Burnout Inventory for students (OLBI-s) and the Utrecht Work Engagement Scale for students (UWES-s). The demographics inventory is self-developed and gathers information related to the age, race, gender, qualification, college, year of study, employment status. The aforementioned variables are known to play a role in burnout and engagement.

The OLBI-s was developed in response to conceptual and measurement deficiencies in the Maslach Burnout Inventory (MBI). The MBI is the most widely used instrument for studying burnout. However, the MBI has been criticised for not including impaired cognitive functioning as a symptom of burnout. Furthermore, the depersonalisation and personal accomplishment domain of the MBI was determined to be debatable in the diagnosis of burnout (Sakakibara *et al.*, 2020). Bakker *et al*. (2004) argued that personal accomplishment shows a weak relationship with the exhaustion and cynicism components of burnout. The OLBI-s, like its

parent instrument the OLBI, has sixteen items, eight items measuring exhaustion and eight items measuring disengagement (Reis *et al.*, 2015). Each subscale contains four negatively worded items and four positively worded items to provide a balanced outlook for respondents (Reis *et al.*, 2015).

Burnout level score ranges are represented in Table 1. Low levels of burnout score less than 44 on the OLBI-s, moderate levels of burnout score between 44-59 and high levels of burnout score greater than 59.

Table 1: Burnout score ranges

Level	Range scores
Low	<44
Moderate	44-59
High	>59

(Oana Tipa, Tudose & Pucarea, 2019)

In terms of the OLBI-s subscales, the score ranges are represented in Table 2. For the exhaustion component low level scores are less than 21, moderate scores are between 21-29 and high is greater than 29.

Table 2: Burnout score ranges per component

Burnout component	Level	Range scores
Exhaustion	Low	<21
	Moderate	21-29
	High	>29
Disengagement	Low	<24
	Moderate	24-31
	High	>31

(Oana Tipa *et al*., 2019)

The disengagement scale low level scores are less than 24, moderate scores are between 24-31 and high scores are greater than 31. These norm scores will be used to interpret the findings of this study.

The UWES-s operationalises the concept of work engagement into three domains. The first–vigour–refers to high levels of energy, willingness to exert effort and mental resilience in your line of work (Lekutle & Nel, 2012). Dedication refers to strong involvement in your work, a sense of significance about your work and pride in your work (Lekutle & Nel, 2012; Van Den Broeck *et al*., 2008) the presence of job demands (e.g., work pressure, while absorption refers to difficulty tearing oneself away from work and being unaware of time lapsing due to concentration on your work (Lesener, Gusy & Wolter, 2019) this meta-analytic review uses longitudinal evidence to validate the essential assumptions within the JD-R model. Burnout is generally viewed as the erosion of engagement (Lekutle & Nel, 2012). The instrument consists of fourteen items divided across the three domains described above. The instrument has been tested for validity and reliability in a sample of the South African university population (Mostert *et al*., 2007) construct equivalence and reliability of adapted versions of the Maslach Burnout Inventory Student Survey (MBI SS).

In Table 3 the norm scores for the UWES -9s are provided. The scores are categorised based on the mean score of the scale or subscale and are categorised into five categories. Vigour is classified as very low when it has a score below 2.00, low when it has a score between 2.01-3.25, average when it has a score between 3.26-4.80, high when it has a score between 4.81-5.65 and very high when it has a score above 5.66.

Table 3: UWES-s Norm scores

	Vigour	**Dedication**	**Absorption**	**Total Score**
Very low	≤2.00	≤1.33	≤1.17	≤1.77
Low	2.01-3.25	1.34-2.90	1.18-2.33	1.78-2.88
Average	3.26-4.80	2.91-4.70	2.34-4.20	2.89-4.66
High	4.81-5.65	4.71-5.69	4.21-5.33	4.67-5.50
Very high	≥5.66	≥5.70	≥5.34	≥5.51
M	4.01	3.88	3.35	3.74
SD	1.13	1.38	1.32	1.17
SE	.01	.01	.01	.01
Range	.00-6.00	.00-6.00	.00-6.00	.00-6.00

(Schaufeli & Bakker, 2004)

Dedication is classified as very low when it has a score below 1.33, low when it has a score between 1.34 and 2.90, average when it has a score between 2.91 and 4.70, high when it has a score between 4.71 and 5.69 and very high when it has a score above 5.70. Absorption is classified as very low when it has a score below 1.17, low when it has a score between 1.18 and 2.33, average when it has a score between 2.34 and 4.20, high when it has a score between 4.21 and 5.33 and very high when it has a score above 5.34. The total score is classified as very low when it has a score below 1.77, low when it has a score between 1.78 and 2.88, average when it has a score between 2.89 and 4.66, high when it has a score between 4.67 and 5.50 and very high when it has a score above 5.51. These norms will be used to interpret the findings of this study.

6.4 Data analysis

Descriptive statistics and measures of central tendency were used to analyse demographic items such as race, age, gender and position. The scores for the UWES-s were calculated by adding the items and dividing by the number of items (Schaufeli & Bakker, 2004). The OLBI-s scores were calculated by adding up the items that result in a total score of between 16 and 64. Scores for the OLBI-s and the UWES-s were analysed using the cut-off values specified by the relevant literature and elaborated on above. This was followed by exploratory factor analysis to determine whether the underlying factor structure fits that of international samples. Linear regression was conducted to establish whether the variables under study predicted dropout intention among students.

6.5 Ethical considerations

The study received ethical approval from the institutional College of Human Sciences Research Ethics Workgroup with reference number 90169298_CREC_CHS_2021. Respondent anonymity was guaranteed in the invitation e-mail and implemented by collecting no identifiable information and making use of automated e-mail distribution software run by another department within the same university. The researcher therefore had no access to

respondent contact information at any point in the study. Respondents were informed of their rights to informed consent and it was emphasised that no negative outcomes would result from withdrawal from the study.

7. Results

This section details the results of the survey. The results' section is divided into demographics, a discussion on the OLBI-s, a discussion on the UWES-s and a section on the hypothesis testing for the study. As mentioned earlier, the sample for the study was 36000 students. A total of 7400 students responded, of which 5400 responses were complete and thus usable for analysis as the instruments are sensitive to missing data. This realises a response rate of 15% which was determined to be sufficient as it was greater than 10% of the sample.

7.1 Demographics of the respondents

Approximately 70% of the respondents were African, followed by 18% of respondents who were White, 8% of respondents were Coloured, while 6% were Indian. The majority of respondents (73.4%) were female and 26.1% were male. The mean age of the respondents was 30 years with a minimum of 18 and a maximum of 82. The standard deviation was 8.688. In terms of whether or not they were first generation students, the respondents were almost equally split. The majority of respondents (53%) were not first-generation students (students who are the first in their family to attend university) while 47% were. Approximately 21% of respondents were from the College of Law, followed by 20% who were from the College of Human Sciences. The third largest group (19%) they were from the College of Education and were followed by the College of Economic and Management Sciences at 16%. The College of Accounting Sciences stood at 9.9% and the College of Science, Engineering and Technology at 9% followed by the College of Agricultural and Environmental Sciences at 5%. The majority (54%) of respondents were full-time employed, working 8 hours or more a day. This was followed by 18% who were unemployed but still engaged in job-seeking. Approximately 15% were studying full-time and did not engage in any income generating activities, while 7% were working part-time. Those in occasional employment (5%) were the second smallest group and the smallest group (1%) was registered at two institutions simultaneously. Most respondents (75%) had a module workload of more than five courses.

7.2 Dropout intention of respondents

The majority of respondents (45%) indicated that they were unlikely to discontinue their studies in the coming 12 months. Approximately 17% were undecided about whether they would discontinue their studies, while 14% indicated that it was somewhat unlikely that they would discontinue their studies. Approximately 13% indicated that it was somewhat likely that they would discontinue their studies while 11% indicated that this outcome was extremely likely.

7.3 Oldenburg Burnout Inventory for students

7.3.1 Reliability statistics

Overall the OLBI-s had a Cronbach alpha of 0.864, suggesting that the items have relatively high internal consistency. Disengagement is calculated by adding the scores of the items indicated in Table 4 with items 3, 6, 8, 9 and 11 reverse scored. The disengagement subscale had a Cronbach alpha score of 0.761, which indicates acceptable levels of internal consistency.

Table 4: Disengagement items

Question number	Item description
1	I always find new and interesting aspects in my studies.
3	It happens more and more often that I talk about my studies in a negative way.
6	Lately, I tend to think less about my academic tasks and do them almost mechanically.
7	I find my studies to be a positive challenge.
9	Over time, one can become disconnected from this type of study.
11	Sometimes I feel sickened by my studies.
13	This is the only field of study that I can imagine myself doing.
15	I feel more and more engaged in my studies.

The exhaustion subscale also consisted of eight items and was calculated by adding up the scores of the items in Table 5 with items 2, 4, 8 and 12 reverse scored. The exhaustion subscale had a Cronbach alpha of 0.822, indicating a relatively high level of internal consistency.

Table 5: Exhaustion items

Question number	Item description
2	There are days when I feel tired before I arrive in class or start studying.
4	After a class or after studying, I tend to need more time than in the past to relax and feel better.
5	I can tolerate the pressure of my studies very well.
8	While studying, I often feel emotionally drained.
10	After a class or after studying, I have enough energy for my leisure activities.
12	After a class or after studying, I usually feel worn out and weary.
14	I can usually manage my study-related workload well.
16	When I study, I usually feel energised

7.4 Oldenburg Burnout Inventory for students results

The OLBI-s burnout score had a mean of 41.88 with a standard deviation of 7.5, a minimum of 16 and a maximum of 64 out of 64. The disengagement score had a mean of 19.28 with a standard deviation of 4.14, a minimum of 8 and a maximum of 32 out of 32. The exhaustion scale had a mean of 22.59 with a standard deviation of 4.16, a minimum of 8 and a maximum of 32 out of 32.

In terms of the prevalence of burnout among students, 51% of students could be classified as having low levels of burnout, while 38% were moderately burned out. Only 1% of students presented high levels of burnout. In terms of the levels of disengagement, 57% of respondents showed low levels of disengagement, 35.1% showed moderate levels and 1% showed high levels. In terms of exhaustion symptoms, 54% of respondents showed low levels of exhaustion, 38% showed moderate levels and 1% showed high levels of exhaustion.

7.5 Utrecht Work Engagement Scale for students results

7.5.1 Reliability statistics

The UWES-s had a Cronbach alpha of .927, which indicates a very high level of internal consistency.

The UWES-s consists of three subscales, each made up of three items. These subscales are vigour, dedication and absorption. Vigour is constructed of the items in Table 6, which are added and then divided by the number of items. The vigour subscale had a Cronbach alpha of .826, which indicates a relatively high level of internal consistency.

Table 6: Vigour items

Question number	Item description
1	When I'm doing my work as a student, I feel bursting with energy.
2	I feel energetic and capable when I'm studying or going to class.
5	When I get up in the morning, I feel like going to class.

The dedication subscale is constructed of items in Table 7. The dedication scale had a Cronbach alpha of .809, which indicates a relatively high level of internal consistency.

Table 7: Dedication items

Question number	Item description
3	I am enthusiastic about my studies.
4	My studies inspire me.
7	I am proud of my studies.

The absorption subscale is constructed of items in Table 8. The absorption scale had a Cronbach alpha of .800, which indicates a relatively high level of internal consistency.

Table 8: Absorption items

Question number	Item description
6	I feel happy when I am studying intensely.
8	I am immersed in my studies.
9	I get carried away when I am studying.

7.5.2 UWES-s results

The vigour subscale had a mean of 12.73, with a minimum of 3, a maximum of 21 and a standard deviation of 5.05. The dedication subscale had a mean of 15.33, with a minimum of 3, a maximum of 21 and a standard deviation of 4.66. The absorption subscale had a mean of 13.61, with a minimum of 3, a maximum of 21 and a standard deviation of 4.95. Respondents were categorised into five categories ranging from very low to very high for the vigour, dedication, absorption and study engagement variables. This enabled analysis of the trends and distribution of these variables among the population. For vigour, 14% showed very low levels of vigour, 14% showed low levels, 28% showed average levels, 11% showed high levels and 28% showed very high levels of vigour. For dedication, 1% indicated very low levels of dedication, 8% reported low levels, 28% reported average levels, 17% reported high levels and 40% reported very high levels of dedication. In terms of absorption levels, 3% reported

very low levels, 8% reported low levels, 25% reported average levels, 18% reported high levels and 33% reported very high levels of absorption. In terms of study engagement as an overall construct, 3% reported very low levels of study engagement, 10% reported low levels, 28% reported average levels, 14% reported high levels and 32% reported very high levels of study engagement.

7.6 Factor analysis

Prior to conducting inferential testing of the study hypotheses, it wass necessary to determine whether the factor structures of the instruments align with findings in international studies. Both the OLBI-s and UWES-s met all of the assumptions for factor analysis to take place.

7.6.1 OLBI-s

Assumption testing showed that Bartlett's test of sphericity was significant ($\chi 2$ (66) = 19436.792, $p < .01$) and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.9, which is above the recommendation of 0.7. Five items had communalities below 0.5, which is considered ideal, and were removed from the factor equation. The factor analysis component matrix shows that the exhaustion and disengagement subscales loaded onto a single factor, burnout, with loadings of .909 each. The factor structure for the OLBI-s therefore corroborates findings from other studies which indicated that the exhaustion and disengagement subscales loaded onto a single factor (Oana Tipa et al., 2019).

7.6.2 UWES-s

Assumption testing showed that Bartlett's test of sphericity was significant (χ^2 (28) = 26251.02, $p < .01$) and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.9, which is above the recommendation of 0.7. Only one item showed communalities below 0.5 and was removed from the factor analysis equation. The vigour, dedication and absorption scales load onto a single factor, namely study engagement. Vigour had a loading of .926, dedication had a loading of .924 and absorption one of .924.

7.7 Hypothesis testing

In this section the outcomes of the hypothesis testing are reported. The section is structured around the four hypotheses.

Hypothesis 1: There is a negative relationship between study engagement and dropout intention

Table 9 shows the results of the Pearson correlation for the relationship between study engagement and dropout intention. The results show a significant but small negative correlation between study engagement and dropout intention $r(5432)= -.229$, $p<.001$. This hypothesis can therefore be retained and the null hypothesis rejected.

Table 9: Study engagement and dropout intention correlation

		How likely are you to discontinue your studies in the coming 12 months?	Study engagement
How likely are you to discontinue your studies in the coming 12 months?	Pearson Correlation	1	-.229**
	Sig. (1-tailed)		.000
	N	5434	4962
Study engagement	Pearson Correlation	-.229**	1
	Sig. (1-tailed)	.000	
	N	4962	4977
**. Correlation is significant at the 0.01 level (1-tailed).			

Hypothesis 2: Study engagement negatively predicts dropout intention

In Table 10 we have the model summary for the regression equation predicting whether study engagement predicts dropout intention. The R is the correlation between the observed and predicted values of the dependent variable. Table 10 shows a significant but weak correlation (R=0.229, p<.000). The R Square indicates the proportion of variance which can be predicted by the independent variable. In this case R^2=0.053, which indicates that the model explains 5% of the variance in dropout intention.

Table 10: Model summary for regression equation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.229	0.053	0.052	1.381	0.053	275.032	1	4960	0.000

Looking at the regression coefficients we see that β=-0.024, t=-16.584, p=0.000, which means that, for every one point increase in study engagement, there is a 2% drop in dropout intention as shown in Table 11. This supports the alternative hypothesis and the null hypothesis is therefore rejected.

Table 11: Regression coefficients

Model B		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		Std. Error	Beta			
1	(Constant)	3.297	0.063		52.044	0.000
	Study engagement	-0.024	0.001	-0.229	-16.584	0.000

Hypothesis 3: There is a positive relationship between burnout and dropout intention

In Table 12 we have the correlation coefficients for the relationship between burnout and dropout intention. It is apparent that there is a significant but small correlation between the two variables r(5432)=0.259, p<0.05, which means we can reject the null hypothesis and the alternative hypothesis is supported.

Table 12: Burnout and dropout intention correlation

Correlations			
		How likely are you to discontinue your studies in the coming 12 months?	**Burnout**
How likely are you to discontinue your studies in the coming 12 months?	Pearson Correlation	1	.259**
	Sig. (1-tailed)		.000
	N	5434	4914
Burnout	Pearson Correlation	.259**	1
	Sig. (1-tailed)	.000	
	N	4914	4929
**. Correlation is significant at the 0.01 level (1-tailed).			

Hypothesis 4: Burnout positively predicts dropout intention

In Table 13 the model summary for the regression equation between burnout and dropout intention is represented. It is evident that there is a weak correlation between the observed and predicted values of the dependent variable (R=0.259) and only a small amount of variance is explained R^2=.067, F(1)=352.16, p<.000, which equates to 6.7% of the variance in dropout intention explained by burnout scores.

Table 13: Model summary of regression

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.259	.067	.067	1.362	0.067	352.156	1	4912	0.000

The regression coefficients show that there is significant but small relationship β=.048, t=2.399, p=.000 between burnout and dropout intention where a one point increase in burnout leads to a 0.048 increase in dropout intention as shown in Table 14. The alternative hypothesis is therefore supported and the null hypothesis rejected.

Table 14: Regression coefficients

Model B		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	.263	0.110		2.399	0.016
	Burnout	.048	0.003	0.259	18.766	0.000

8. Discussion

This study aimed to investigate the prevalence of burnout symptoms and the level of study engagement among ODeL students during the Covid-19 pandemic. A secondary aim was to establish what relationship, if any, existed between burnout, study engagement and dropout intention. The purpose of this investigation was to proactively identify and support students who were at risk of burnout or study disengagement. The findings of this study provide insights into the roles of burnout and study engagement in dropout intention among a diverse student population.

The findings of the study show that there are relatively low levels of burnout within the student population with 51.4% of respondents indicating low levels of burnout. A point of concern is the 37.7% who report moderate symptoms of burnout as these symptoms could develop into more severe symptoms. The low levels of burnout symptoms among the respondents are quite surprising given the fact that the majority (54.2%) of respondents are working full-time and are simultaneously engaged in study. When looking at student study loads, the overwhelming majority of respondents (75%) were registered for more than five courses, where five courses would equate to half of the years' study load , the low levels of burnout symptoms are even more surprising considering that perceived workload is associated with exhaustion (Maslach *et al*., 2001; Salmela-Aro *et al*., 2022).This finding contrasts those of Salmela-Aro *et al*. (2022) who found that distance-study- related demands were associated with lower study engagement and higher burnout earlier in the pandemic. However, they found that as time went on students were more able to manage their daily lives, distance study challenges and the role of these demands in their study demands reduced (Salmela-Aro *et al*., 2022). A possible explanation for these findings is that the students surveyed in this study are existing online, distance education students who may have developed strategies to effectively manage study, work and family responsibilities. Other factors that may have contributed to this finding is the level of support, whether financial or social and motivation for learning (Hyytinen *et al*., 2022; Stoeber *et al*., 2011). The work by Creed *et al*. (2022) suggests that students who have flexibility in their work or study environments are better off psychologically and are better placed in terms of their studies. These findings suggest that flexible assessment policies, such as continuous assessments or portfolios as opposed to timed examinations at fixed dates, at institutions may play a key role in mediating burnout among students as these elements increase study flexibility. Furthermore, Vizoso, Arias-Gundin and Rodriguez (2019) dispositional optimism, academic burnout and academic performance using structural equation modelling. Data were collected from a sample of 532 Spanish undergraduate students. Participants completed a battery of questionnaires including the LOT-R to assess optimism, CSI for the measurement of (adaptive and maladaptive a coping strategies also highlight the role of adaptive coping skills such as problem solving, adjusting the significance of the demanding situation, social support and expressing emotion in mitigating burnout. These findings are supported by Alves

et al. (2022) who stated that the higher the maladaptive coping mechanisms, the higher the dropout intention. These skills are seen as malleable and can be influenced with training and support and therefore could be developed in students through appropriate training.

Burnout only explained 6.7% of the variance in dropout intention. This finding suggests that, while burnout plays a role in dropout intention, there are other factors that have a greater impact on student persistence. This is corroborated by earlier research into the factors that impact on student attrition (Howie, 2003; Kuh *et al*., 2006; Mayet, 2016). Among these factors is the mode of learning, in this case online learning, which typically have higher dropout rates than their contact counterparts (Mishra, *et al*., 2021).

Engagement is viewed as the positive antithesis of burnout and may provide an indicator of student disengagement from study (Maslach *et al*., 2001). In this study, study engagement levels were also shown to be very high, with 46.3% of respondents indicating either high or very high levels of engagement. This corroborates the finding of the low levels of dropout intention among respondents, with 45% of respondents indicating that it was extremely unlikely that they would discontinue their studies in the next twelve months. These findings corroborate the results from the burnout dimension of the study and the general theory regarding engagement as a protective factor against burnout and as a mediating factor in future success (Abreu Alves *et al*., 2022; Salanova *et al*., 2009) this is not the whole story. The current study investigated the additional impact of psychosocial factors (i.e., performance obstacles and facilitators). The high levels of study engagement may be related to the number of interventions and increased engagement with academic staff and peers through online platforms. Study-related resources such as support from peers and instructors support study engagement (Salmela-Aro *et al*., 2022). Salmela-Aro *et al*. (2022) also highlighted the relevance of competence, autonomy and relatedness in developing study engagement among distance education students. Support programmes focusing on these key concepts could prove to be decisive in improving and maintaining high levels of study engagement among students.

9. Conclusion

While the pandemic, and its concomitant pressures, continues, burnout risk will persist among the student population. Studies like this one are therefore important monitoring tools to ensure that students receive the necessary and timely support from institutions in time. Nevertheless, the findings of this study showed low levels of burnout among ODeL students and significant but weak relationships between burnout and dropout intention. Future studies could extend this research to include students from contact institutions to ascertain whether the mode of learning influences the prevalence of burnout symptoms. The role of social capital was also not examined in this study which may explain the relatively low rates of burnout among respondents. Furthermore, future students could also integrate burnout resilience factors to determine the levels of resilience student populations have.

There are several limitations to the study. Firstly, the study sample mostly comprised of working students, which represent a third of the student population at the institution under study. Relatively few unemployed and full-time students responded to the call for participation in this study. The findings of this study therefore cannot be directly generalised to these other groups within the student population as they have a different profile. Finally, the study did not include other factors that have been shown to effect dropout intention in students. This was due to the study focusing exclusively on the impact of burnout and study engagement on dropout intention.

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