

EFFECT OF SELF-EFFICACY IN THE RELATIONSHIP BETWEEN MENTAL HEALTH PROBLEMS AND ACADEMIC PERFORMANCE OF DISTANCE LEARNERS

Vera Arhin

University of Cape Coast

This study investigates self-efficacy's role in mediating the impact of mental health issues on academic performance among 510 Ghanaian undergraduate distance learners. Using an explanatory research design, convenience sampling, and PLS-SEM for analysis, findings revealed a significant difference in academic performance between students with and without mental health issues. Mental health factors (depression, anxiety, stress) explained 3.4% of self-efficacy variance and 4.2% in academic performance, with self-efficacy partially mediating the relationship. Recommendations include integrating mental health education into distance learning, and promoting resilience through goal-setting and regular mental health seminars led by counselors in collaboration with public health providers.

Keywords: Academic Performance, Anxiety, Depression, Mental Health, Self-Efficacy

INTRODUCTION

The prevalence of mental health challenges among university students is alarming, with stress impacting 84.4% and anxiety 88.4% of this population (Asif et al., 2020). These challenges do not only undermine students' psychological well-being but also hinder their

academic performance of affected students. According to Ornaghi et al. (2016), mental health issues can significantly affect learners' development, leading to difficulties in school adjustment, reduced focus, academic challenges, and strained social relationships. Poor mental health may also result in decreased motivation, fatigue, and physical symptoms (Mofatteh, 2020).

• **Correspondence concerning this article should be addressed to:** Vera Arhin, varhin@ucc.edu.gh

The Quarterly Review of Distance Education, Volume 25(4), 2024, pp. 1–15
Copyright © 2024 Emerald Publishing Limited

ISSN 1528-3518
All rights of reproduction in any form reserved.

Considering the high prevalence of mental health issues among university students and the vital role academic performance plays in the success and overall well-being of students, recent shifts in education delivery have further complicated these challenges. The rise of technology and the demand for professional growth have reshaped the educational landscape, making distance learning an increasingly popular alternative to traditional classroom settings. This flexible approach allows students to pursue academic and career goals outside conventional environments. Yet, despite its advantages, distance learning also brings unique challenges that can influence both academic performance and mental health. Students often face difficulties balancing studies with work and family obligations, limited interaction with instructors and peers, delayed feedback, and the need for strong self-regulation (Martin & Bolliger, 2018; Stieger et al., 2023; Wang, 2024). These challenges not only test students' academic resilience but also contribute to higher stress levels, emphasizing the importance of tailored support systems to foster both students' academic achievement and well-being in distance learning contexts. Notably, Lister et al. (2021) highlighted that the mental well-being of distance learners has largely been overlooked in distance education literature, which predominantly focuses on campus-based university settings.

Mental health issues, as defined by the WHO (2022), is a condition of mental well-being that allows individuals to manage life's stressors, recognize their capabilities, engage in effective learning and job, and contribute to their society. Mental health can be broadly categorized as externalizing or internalizing problems. Externalizing problems include disruptive behavior, attention deficit hyperactivity disorder (ADHD), and conduct disorders (Stone et al., 2015). Internalizing issues encompass conditions such as depression, anxiety, and various phobias (Baranne & Falissard, 2018). These are associated with short-term academic setbacks, though their long-term effects are less certain (Panayiotou & Humphrey, 2018).

Riglin et al. (2014) noted that while anxiety typically correlates with lower grades in European and Asian contexts, it can lead to improved grades in the United States. This paradox suggests that anxiety, when managed effectively, may enhance performance by increasing alertness and focus. In some cases, anxiety can serve as an adaptive response to stress, boosting motivation and encouraging individuals to confront academic challenges (Keech et al., 2018). However, the success of this response largely depends on the individual's stress management abilities, reflecting the complex relationship between anxiety, stress, and academic outcomes (Tamminga et al., 2023). Despite the increasing global interest in school-based mental health prevention and intervention, there is limited understanding of its impact on distance learners, who often navigate their education independently and remotely.

In this intricate landscape, self-efficacy is a vital psychological factor that can influence the relationship between mental health and academic success among distance learners. Self-efficacy refers to an individual's belief in their ability to perform tasks and achieve goals. Higher self-efficacy is associated with greater motivation, persistence, and academic success, while lower self-efficacy is linked to decreased motivation and performance (Malik et al., 2024). Learners with low self-efficacy may attribute their failures to their perceived lack of abilities, leading to increased anxiety about task performance, avoidance, procrastination, and a greater likelihood of giving up (Fakhrou & Habib, 2022).

The relationship between self-efficacy and mental health issues is grounded in Bandura's (1977, 1998) Social Cognitive Theory, which suggests that a personal sense of control drives changes in health behaviours. According to Social Cognitive Theory, forethought plays a vital role in guiding motivation and actions through three types of expectancies: (a) situation-outcome expectancies, where environmental events indicate consequences without personal involvement, (b) action-outcome ex-

pectancies, where outcomes stem from one's actions, and (c) perceived self-efficacy, which relates to one's confidence in performing actions to achieve desired outcomes (Bandura, 1977). Self-efficacy plays a crucial role in an individual's readiness to tackle challenges and influences the ambition of their goals. A person's belief in his/her ability to impact and manage their environment and actions, which also drives decisions to change health behaviours despite ongoing difficulties (Bandura, 1998). As a key component of Bandura's theory, self-efficacy affects behavior, effort, and resilience when confronting environmental stress (Olson & Hergenahahn, 2012).

Extant studies had been conducted on depression, anxiety and stress as mental health problems affecting students in both foreign and local literature. Studies conducted in foreign literature had shown factors contributing to poor mental health to include; depression, anxiety and stress, and these can negatively impact academic performance (Högberg, 2023; Sadry et al., 2022; Zahit et al., 2022). Others studies include that of Das-Munshi et al. (2016); García-Carrión et al. (2019), Silva et al. (2020), and Zada et al. (2021).

With regard to the individual mental health problems, Adeoye-Agboola and Evans (2015); Oketch-Oboth and Okunya (2018); Lin et al. (2020); Elias et al. (2011); and Silva et al. (2020) studies revealed a statistically negative correlation between students' stress levels and their academic achievement.

Depression, akin to stress, has been identified as widespread among college students, exhibiting moderate to high levels (Algarni, 2020; Kumar et al., 2017; Puthran et al., 2016; Shi et al., 2016; Youssef, 2016). Research conducted by others have shown that greater depression symptoms adversely affect academic performance (Ali et al., 2024; Muhammad et al., 2018). Research conducted on anxiety has also shown moderate to high levels of anxiety among students (Algarni, 2020). Additional research has shown a negative correlation between anxiety and academic performance

(Amponsah & Owolabi, 2011; Samaha & Hawi, 2016; Van Hoek et al., 2019).

Studies conducted within the local context have revealed significant findings regarding mental health and academic performance (Adjorlolo et al., 2022; Agormedah et al., 2024; Ahorsu et al., 2021; Kusi-Mensah et al., 2019; Obeng-Okon et al., 2024). For example, Agormedah et al. (2024) reported that psychological distress, including depression, anxiety, and stress, negatively impacted college students' academic achievement. Ahorsu et al. (2021) found that high school students faced high levels of academic stress, depression, and suicidal thoughts. Kusi-Mensah et al. (2019) identified a significant difference in academic performance related to child and adolescent mental health, noting that depressive disorders resulted in a 1.315 change in performance, while anxiety disorders predicted only a 1% variation. Conversely, Edjah et al. (2020) found that stress could positively affect learners' academic and social lives. Additionally, studies by Gull (2016), Khalil et al. (2021), and Rafiei et al. (2024) indicated that self-efficacy could significantly reduce mental health issues.

Given the potential relationship between mental health problems and academic performance, it is crucial to examine the mediating role of self-efficacy in this dynamic, particularly among distance learners at the University of Cape Coast. By investigating how self-efficacy will impact the relationship between mental health problems and academic performance. This study's aim is to provide valuable insights for policymakers, educators, and school counsellors who are dedicated to enhancing the learning experience of distance learners. Gaining an insight into this relationship can guide the development of targeted interventions and support systems that enhance self-efficacy, helping to mitigate the negative impact of mental health challenges on academic performance. Thus, empowering distance learners with the confidence and resilience needed to navigate academic and personal stressors. Ultimately, the goal is to equip distance learners

with the tool to succeed academically while promoting their mental health.

The study objectives sought to:

1. Investigate whether differences exist in mental health problems (depression, anxiety, stress) and academic performance.
2. Ascertain whether there is statistically significant difference between learners with and without mental health (depression, anxiety, stress) in relation to self-efficacy and academic performance.
3. Examine how self-efficacy mediates the relationship between mental health problems (depression, anxiety, stress) and academic performance.

METHODS AND MATERIAL

Study Design and Participants

Since the study was driven by the logical cause-and-effect relationship among the variables, explanatory research design was appropriate for the study (Coy, 2019). Five hundred and ten undergraduate learners from 20 study centers of a dual mode university in Ghana were sampled for the study. The 20 study centers were selected from the 10 administrative regions of the University. In each region, one study center from the regional capital and one outside the regional capital (district) were selected through purposive and random sampling techniques. For a regional capital and district, which has only one study center, the purposive sampling was used. In regional and district capitals that have more than one study center, the simple random sampling technique was employed. For the actual respondents of the study, convenient sampling technique was employed. This technique was used because attending face-to-face tutorials is optional, as some students participate entirely online, while others have the option to attend in person at the study site.

Variable Measurements

In this study, mental health problems; characterized by depression, anxiety, and stress, were used as independent variables. Academic performance was the dependent variable, with self-efficacy serving as the mediating variable. Five measurement scales were adopted for the study. Specifically, the Centre of Epidemiologic Studies Depression Scale (CES-D-10) adopted from Andresen et al. (1994) was used to measure the level of students' depression. The scale is made up of 10 items with a response format on a 5-point Likert type, with the highest score of 5 representing "all the time", and the lower score of 1 for "never" response option. This scale had an original reliability estimate of 0.86 which was deemed a good fit. Further, Anxiety Assessment Scale developed by Malakcioglu (2022) was adopted to measure the level students' anxiety. This scale also consisted of 10 items and were measured on a 5-point Likert type, with the highest score of 5 representing "almost always" response category and the lower score of 1 for "never" response option. This scale also had a reliability of 0.845. Finally, to measure students' stress level, the study adopted Perceived Stress Scale adopted from the work of Kechter et al., (2019) was employed. It has an established reliability of 0.70. The scale was measured on a 5-point Likert type, with the highest score of 5 representing "very often" response category and the lower score of 1 for "never" response option. In each sub-scale, the highest possible score a respondent can achieve is 50, while the lowest is 10.

Self-efficacy as a mediating variable in this study was measured using the New General Self-Efficacy Scale (NGSES), developed and validated by Chen et al. (2001). The scale has 8 items and scored on a 5-point Likert-type scale from strongly disagree (1) to strongly agree (5) with an internal consistency of 0.85.

Finally, Academic Performance Scale (APS) developed by McGregor (2015) was adopted to measure participants academic performance. The APS is unidimensional and

consists of 8 items. The response format of the scale is a 5-point Likert type ranging from 1 to 5. Its original internal consistency is 0.89 and a test-retest of reliability of 0.85.

Data Analysis Plan

Data analysis for this study was conducted using various statistical methods with SPSS (Version 26), JASP, and SMART-PLS software. The data were first cleaned to remove outliers and entry errors. Preliminary analyses involved examining the mean, standard deviation, skewness, and kurtosis for continuous variables. The first research objective, which examined differences in mental health problems (MHP) and academic performance, was analyzed using an independent sample t-test. The second objective, investigating statistically significant differences in self-efficacy and academic performance between learners with and without MHP, was analyzed using a one-way multivariate analysis of variance (MANOVA). Finally, mediation analysis was conducted using PLS-SEM to assess the mediating role of self-efficacy in the relationship between MHP and academic performance. All inferential analyses employed bootstrapping with 5,000 samples and bias-corrected confidence intervals for parameter estimation.

Prior to data collection, ethical approval was obtained from the Department of Education of the College of Distance Education. All ethical protocols, such as confidentiality, informed consent, and anonymity were strictly followed throughout the data collection process. Participants were first directed to provide

their consent before given the questionnaire to complete. To maintain anonymity, pseudonyms were assigned to the study centres sampled for the study.

RESULTS

Preliminary Analysis

The preliminary analysis is presented in descriptive statistics such as mean, standard deviation, skewness and kurtosis in Table 1.

The analysis in Table 1 revealed that the MHP dimensions had mean values ranging from 18.40 to 24.21 and standard deviation values ranging from 8.83 to 10.06. The mean for academic performance was 31.63 with a standard deviation of 8.35 while the mean for self-efficacy was 31.56 with a standard deviation of 8.24. All skewness and kurtosis values for the values were acceptable and within the established ranges (Hair et al., 2022; Tabachnick & Fidell, 2013).

Research Question One: Significant differences in mental health problems (depression, anxiety, stress) and academic performance

Table 2 depicts the performance of students in relation to mental health problems.

In order to test for the differences, the independent sample t-test was conducted to compare high levels and low levels of the mental health problems (depression, anxiety, stress) with academic performance. In relation to depression, the results revealed a statistically

TABLE 1
Mean, SD, Skewness, and Kurtosis of the Variables

Main Construct	Variables	Mean	SD	Skewness	Kurtosis
MHP Dimensions	Depression	18.40	8.83	1.13	0.78
	Anxiety	20.92	9.36	0.78	0.09
	Stress	24.21	10.06	0.30	-0.69
Academic Performance	Academic Performance	31.63	8.35	-1.26	0.93
Self-Efficacy	Self-Efficacy	31.56	8.24	-1.27	0.94

TABLE 2*Significant Differences in Mental Health Problems and Academic Performance*

	<i>Mental Health Problems</i>	<i>Freq</i>	<i>%</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>t statistic</i>	<i>Df</i>	<i>Sig value</i>
Performance	Low Depression	321	62.94	32.68	8.33	3.75	508	.000
	High Depression	189	37.06	29.85	8.08			
Performance	Low Anxiety	309	60.59	31.53	9.02	3.20	508	.000
	High Anxiety	201	39.41	31.78	7.21			
Performance	Low Stress	288	56.47	30.93	9.09	-2.15	508	.000
	High Stress	222	43.26	32.53	7.18			

significant difference in performance between students with low depression and students with high depression where $t(508) = 3.75$, $p < .05$. The mean differences showed higher mean performance for students with low depression ($M = 32.68$, $SD = 8.33$) and low mean performance for students with higher depression ($M = 29.85$, $SD = 8.03$). Regarding anxiety, the results revealed a statistically significant difference in performance between students with low anxiety and those with high anxiety where $t(508) = 3.20$, $p < .05$. The mean differences showed higher mean performance for students with high anxiety ($M = 31.78$, $SD = 7.21$) and low mean performance for students with low anxiety ($M = 29.85$, $SD = 8.03$). Finally, for stress, the results revealed a statistically significant difference in performance between students with low stress and students with high stress where $t(508) = -2.15$, $p < .05$. The mean differences showed higher mean performance for students with high stress ($M = 32.53$, $SD = 7.18$) and low mean performance for students with low stress ($M = 30.93$, $SD = 9.09$).

Research Question Two: Significant Differences in Self-Efficacy and Academic Performance between Learners with and without Mental Health Problems

In order to test for significant differences in the means values for composite scores of mental health problems and academic performance, a one-way MANOVA was conducted.

In performing this analysis, multivariate analysis of variance (MANOVA) was tested to find out whether there exists a statistically significant difference in self-efficacy and academic performance between LWMHP and LWOMHP. Participants mental health problem (MHP) scores were merged and categorized into low and high. Learners that measured low on the scale were considered as LWOMHP whereas those that measured high on the scale were considered as LWMHP. Table 3 summarizes the means and standard deviations of the differences in self-efficacy and academic performance between learners with and without mental health problem.

The descriptive analysis shown in Table 3 showed that the mean and SD score of the performance for learners with mental health problems (LWMHP) was $M = 26.04$, $SD = 7.92$ and that of learners without mental health problems (LWOMHP) was $M = 37.73$, $SD = 2.46$. Also, the mean and SD score of self-efficacy for LWMHP was $M = 22.89$, $SD = 6.81$ and that of LWOMHP was $M = 32.95$, $SD = 2.13$. A visual impression of Table 3 shows that, learners with mental health problems recorded lower mean score on both performance and self-efficacy whereas learners without mental health problems recorded higher on both performance and self-efficacy scale.

Subsequently, the researcher ensured that all assumptions underlying MANOVA were met. The assumptions included normality, linearity, homogeneity of variance and absence of multicollinearity. However, the equality of covariance matrices using Box's M test was violated

TABLE 3*Descriptive Statistics of LWMHP and LWOMHP in relation to AP and SE*

	<i>Mental Health Problems</i>	<i>Freq</i>	<i>%</i>	<i>Mean</i>	<i>Std. Deviation</i>
Performance	LWMHP	266	52.2	26.04	7.92
	LWOMHP	244	47.8	37.73	2.46
Self-efficacy	LWMHP	266	52.2	22.89	6.81
	LWOMHP	244	47.8	32.95	2.13

TABLE 4*MANOVA Results for the Effect of MHP on Self-efficacy and Academic Performance*

<i>Effect</i>	<i>Pillai's Trace</i>	<i>F</i>	<i>Hypothesis df</i>	<i>Error df</i>	<i>Sig</i>	<i>Partial eta-squared</i>
Intercept	.967	7508.92	2.00	507.00	.00	.97
MHP Status	.492	245.76	2.00	507.00	.00	.49

because it had a p -value $< .05$. For this reason, Pillai's Trace was used instead of Wilks' Lambda. Table 4 depicted the multivariate test results using Pillai's Trace test statistic.

The results in Table 4 showed that there was a significant difference between LWMHP and LWOMHP on a combined measures of the criterion variables as a function of MHP of the students ($V = .492$, $F(2, 507) = 245.76$, $p < .05$). The partial eta-squared value ($\eta^2 = .49$) explains that about 49% of the variances in the total scores self-efficacy and academic performance can be explained by the group. After the significant multivariate effect, univariate test results were observed to find out the effect mental health problems of students on each dependent variable of self-efficacy and academic performance separately. The result is presented in Table 5.

From the findings in Table 5, it was revealed that there is a significant group differences in academic performance, $F(1, 508) = 488.51$, $p < .05$, $\eta^2 = .49$, and self-efficacy, $F(1, 508) = 487.46$, $p < .05$, $\eta^2 = .49$. This confirmed the results established in Table 3 when LWOMHP recorded high mean scores on both academic performance and self-efficacy as compared with LWMHP. This implies that mental health problems (depression, anxiety and stress) have

a great impact on both academic performance and self-efficacy.

Predictive Regression Analysis of Mental Health Problems on Academic Performance and Self-Efficacy

Furthermore, a multivariate multiple regression analysis was performed to examine the predictive influence of mental health problems (MHP) on students' academic performance and self-efficacy. The result was based on 1000 bootstrap samples with bias corrected accelerated confidence intervals. The significance of the test result was based on same sign confidence interval (+, + or -, -). The multivariate test result is summarized in Table 6.

Findings in Table 6 revealed that the overall model (depression, anxiety and stress) was significant and accounted for 3.4% and 4.2% of the variances in self-efficacy and academic performance respectively. However, only depression emerged as a significant predictor. Specifically, depression had a significant negative effect on both self-efficacy, $B = -.239$, *Boot 95%CI* (-.321, -.156) and performance $B = -.213$, *Boot 95%CI* (-.308, -.122). In contrast, anxiety and stress did not significantly predict self-efficacy and performance.

TABLE 5*Univariate Test Results of the Effect of Mental Health Problems on Self-Efficacy and Academic Performance of Students*

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Performance	17384.73a	1	17384.73	488.51	.000	.49
	Efficacy	12859.79b	1	12859.79	486.46	.000	.49
Intercept	Performance	517414.77	1	517414.77	14539.41	.000	.97
	Efficacy	396951.09	1	396951.09	15046.72	.000	.97
Mental Health Problems	Performance	17384.73	1	17384.73	488.51	.000	.49
	Efficacy	12859.79	1	12859.79	487.46	.000	.49
Error	Performance	18078.23	508	35.59	-	-	-
	Efficacy	13401.67	508	26.38	-	-	-
Total	Performance	545677.00	510	-	-	-	-
	Efficacy	417801.00	510	-	-	-	-
Corrected Total	Performance	35462.96	509	-	-	-	-
	Efficacy	26261.47	509	-	-	-	-

Research Question Three: The Mediating Effect of Self-Efficacy in the Relationship between Mental Health Problems and Academic Performance

Mediation analysis was performed to assess the mediating role of self-efficacy in the relationship between mental health problems (depression, anxiety and stress) and academic performance at $p < .05$. The findings are presented in Table 7.

Table 7 highlights the effects of depression, anxiety, and stress on academic performance without and with self-efficacy as a mediating factor. Initially, without self-efficacy's involvement, anxiety and performance showed a strong positive link ($\beta = .97$), depression had a negative effect on performance ($\beta = -.17$), and stress had a slight positive effect on performance ($\beta = .18$). When self-efficacy was included as a mediator, the direct effects between these mental health factors and performance remained significant. Additionally,

TABLE 6*Multivariate Test Results of the Effect of MHP Dimensions on AP and SE*

Dependent Variable	Parameter	B	Bias	SE	Sig. (2-tailed)	BCa 95% Confidence Interval	
						Lower	Upper
Self-Efficacy	Intercept	32.913	-.011	1.088	.001	30.705	35.065
	Depression	-.239	-.001	.042	.001	-.321	-.156
	Anxiety	.020	-.002	.055	.706	-.086	.129
	Stress	.108	.003	.061	.069	-.019	.230
Performance	Intercept	32.987	.001	1.120	.001	30.683	35.275
	Depression	-.213	.000	.046	.001	-.308	-.122
	Anxiety	-.002	-.002	.058	.965	-.117	.111
	Stress	.107	.003	.062	.076	-.020	.227
Self-Efficacy	R Squared = .039 (Adjusted R Squared = .034)						
Performance	R Squared = .048 (Adjusted R Squared = .042)						

TABLE 7
Total Effect, Direct Effect, and Indirect Effect on Academic Performance

<i>Total Effects of the Relationship Between the Variables</i>	<i>Coefficient</i>	<i>T Statistics</i>	<i>2.5%</i>	<i>97.5%</i>
Anxiety -> Performance	.97	39.22	.92	1.02
Depression -> Performance	-.17	13.04	-.19	-.14
Stress -> Performance	.18	9.69	.14	.22
<i>Direct Effect of the Relationship Between the Variables</i>	<i>Coefficient</i>	<i>T values</i>	<i>2.5%</i>	<i>97.5%</i>
Anxiety -> Performance	1.380	1.383	1.180	1.580
Anxiety -> Self-Efficacy	0.976	0.976	0.937	1.015
Depression -> Performance	-0.123	-0.123	-0.153	
Depression -> Self-Efficacy	0.102	0.102	0.082	0.123
Self-Efficacy -> Performance	-0.418	-0.421	-0.614	-0.231
Stress -> Performance	0.147	0.147	0.105	0.188
Stress -> Self-Efficacy	-0.076	-0.077	-0.109	-0.045
<i>Indirect Effects of the Relationship Between the Variables</i>	<i>Coefficient</i>	<i>T value</i>	<i>2.5%</i>	<i>97.5%</i>
Anxiety -> self-efficacy -> performance	-0.408	4.27	-0.601	-0.223
Depression -> self-efficacy -> performance	-0.043	4.06	-0.065	-0.023
Stress -> self-efficacy -> performance	0.032	3.03	0.014	0.055

Source: Field Data, $p < .05$

self-efficacy had a notable indirect effect on the relationships: anxiety ($\beta = -.408$), depression ($\beta = -.043$), and stress ($\beta = -.032$) each impacted performance through self-efficacy. This mediation analysis concluded that self-efficacy partly explained how depression, anxiety, and stress influenced academic performance among learners.

Finally, Figure 1 shows the path diagram of the study which indicates the relationship between mental health problems (depression, anxiety and stress) and academic performance. It further shows how self-efficacy mediates the relationship between the mental health problems and academic performance.

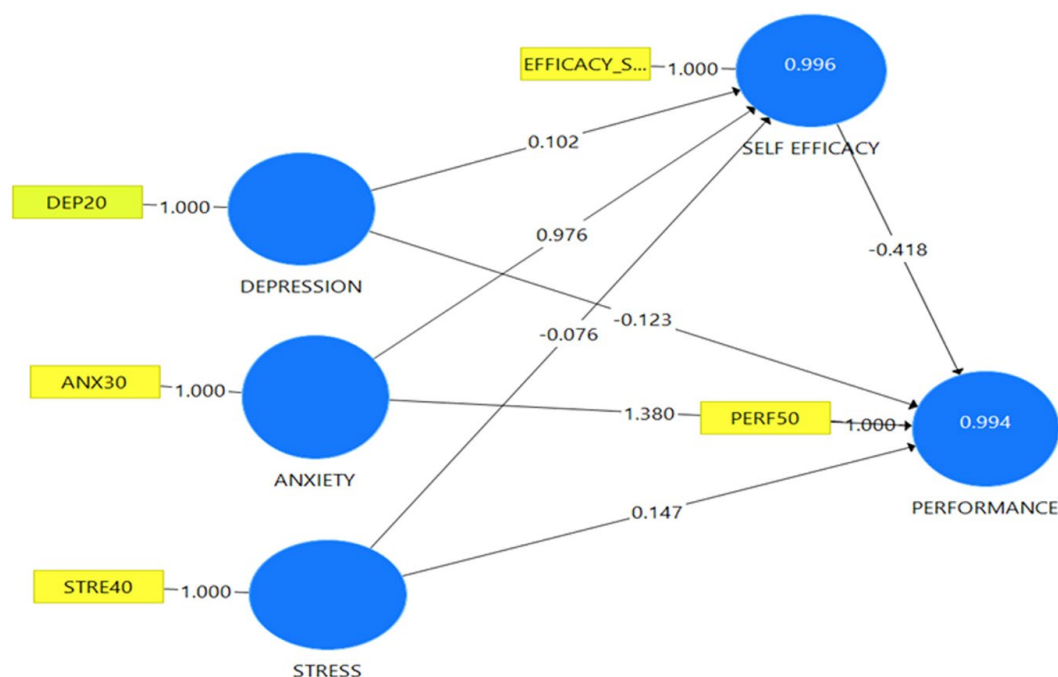
DISCUSSION

The study investigated the effect of three dimensions of mental health issues (depression, anxiety, and stress) on the academic performance of distance learners, along with the mediating role of self-efficacy. Self-efficacy was selected as a mediator due to its potential to

improve the mental health of individuals with high self-efficacy.

For research objective one, the findings indicated significant differences in performance based on levels of depression, anxiety, and stress among distance learners. Those with low depression showed a higher mean performance score ($M = 32.68$) than those with high depression ($M = 29.85$), suggesting that reduced depression correlates with improved academic performance. This supports prior studies linking depression to lower academic outcomes (Javadi & Shafikhani, 2019; Wahed & Hassan, 2017). Interestingly, learners with higher anxiety scored slightly better ($M = 31.78$) than those with lower anxiety ($M = 31.53$), challenging the typical notion that anxiety hinders performance. This result aligns with the Yerkes-Dodson law (Corbett, 2015), which suggests that moderate anxiety may enhance performance by reaching an optimal level of stimulation.

The study found that distance learners experiencing higher stress levels had a slightly better average performance score ($M = 32.53$)

**FIGURE 1**

Path Diagram of the Relationship Between the Mediator, Predictor and Criterion Variables

than those with lower stress ($M = 30.93$). This result challenges the typical view that stress negatively affects academic performance, suggesting instead that distance learners may interpret stress as a motivating challenge, enhancing their engagement and academic outcomes. The demands of balancing school, work, and family may lead them to use stress in a positive way. Though this finding diverges from much of the literature, it aligns with Edjah et al. (2020), who also found positive effects of stress on learners' academic and social lives. Overall, the results suggest that, unlike high depression and low anxiety, moderate levels of both anxiety and stress may have a favorable impact on academic performance, revealing a more complex relationship between these factors and academic outcomes.

The findings for the second research objective showed that learners with mental health issues had lower average scores in academic performance and self-efficacy compared to those without mental health issues. Multivar-

iate tests confirmed a significant difference between these groups, with mental health issues (depression, anxiety, and stress) explaining 49% of the variance in academic performance and self-efficacy. This highlights the significant impact of mental health on this outcome, indicating that learners with mental health challenges may struggle with lower engagement and performance. Multivariate regression further identified depression as the only significant negative predictor for both self-efficacy and academic performance, suggesting that as depression levels rise, confidence and performance tend to decline, aligning with findings from previous studies (Ali et al., 2024; Muhammad et al., 2018).

The study findings also found that distance learners demonstrate resilience in managing their mental health (stress and anxiety) issues in ways that do not impact their academic performance. This indicates that they might have used stress and/or anxiety as a motivator to study or might have employed effective

learning strategies like time management and group discussions. This result somehow contradicts that of Chu et al. (2023), who reported that mental health issues raised the risk of poor academic performance among undergraduate students. Similar outcomes have been found in studies conducted by Zada et al. (2021); and Agnafors et al. (2021) who found that mental health problems negatively affect the academic performance of students. In contrast to findings in this study, anxiety and stress did not significantly predict self-efficacy and performance, although depression has a significantly impact performance and self-efficacy. This contradiction might be due to differences in experience levels.

The findings for the third research objective indicate that self-efficacy acts as a partial mediator in the relationship between mental health issues (depression, stress, and anxiety) and academic performance among distance learners. This means that while self-efficacy provides a pathway that helps explain the impact of mental health problems on academic performance, it does not entirely account for this relationship. Mental health challenges exert a direct effect on academic performance, but self-efficacy also contributes an indirect buffering effect. As a psychological buffer, self-efficacy offers learners resilience, enabling them to remain motivated and focused even when experiencing mental health struggles. These findings resonate with Bandura's (1977, 1998) Social Cognitive Theory, which posits self-efficacy as a vital determinant of human behavior, shaping one's motivation, learning, and overall performance. According to Bandura, individuals with high self-efficacy are more likely to set goals, remain persistent, and adapt to challenges, which in turn enhances their performance outcomes. In the context of distance learning, students with higher self-efficacy demonstrate stronger academic resilience. They are able to sustain engagement and manage academic demands despite the adverse effects of mental health issues. This reinforces the importance of supporting self-efficacy development among distance learners, as high self-efficacy can lead

to improved academic outcomes by fostering a sense of competence and focus. For university administrators and counselors, interventions that build self-efficacy through skills like goal setting, stress management, and resilience training could be valuable strategies in helping distance learners better manage mental health issues and improve their academic performance.

CONCLUSION

This study reveals that while mental health issues challenge distance learners, their academic performance is not entirely hindered. Self-efficacy plays a pivotal role in buffering the negative effects of stress and anxiety, enabling learners to achieve positive academic outcomes. Aligning with Bandura's Social Cognitive Theory, the study emphasizes that high self-efficacy allows learners to effectively manage mental health stressors, enhancing academic success. However, the findings indicate that this mitigating effect does not extend to depression.

IMPLICATIONS FOR PRACTICE AND POLICY

The study suggests two key implications for practice and policy. **For practice**, first, tailored interventions and support systems are needed to address the unique mental health and academic challenges of distance learners. Second, training programs should be developed for academic advisors and support providers to enhance their ability to recognize mental health issues and provide effective, supportive strategies for students. This is essential, as these individuals are often the first line of support for students facing mental health issues.

For policy, first, distance education institutions should establish policies and programs that emphasize mental health awareness and foster self-efficacy, creating a more supportive

learning environment. Second, policymakers in distance education should use these findings to guide policies that bolster mental health initiatives and integrate self-efficacy development within the educational framework.

RECOMMENDATION

From the findings of the study, it is recommended to the management of the university to incorporate mental health education into the distance education curriculum to raise awareness. Additionally, university counselors and academic advisors should collaborate with public health providers to offer regular seminars on mental health awareness, and focus on building students' self-efficacy through interventions like goal-setting workshops and resilience training. This approach can help improve both mental health and academic performance among distance learners.

LIMITATIONS AND FURTHER STUDIES

While this study offers valuable insights into the relationship between mental health, self-efficacy, and academic performance, it has certain limitations. Firstly, the descriptive cross-sectional design limits the ability to establish causality, only allowing for the examination of temporal relationships. Future research could adopt a mixed-methods approach for a more comprehensive understanding. Secondly, the use of self-reported data introduces potential biases, such as social desirability, which could result in under or over-reporting of mental health issues and academic performance. Despite efforts to reduce these biases, common method variance remains a concern. Lastly, future research should investigate the mechanisms through which self-efficacy influences academic performance in relation to depression, as this study found a negative ef-

fect and did not identify a significant positive relationship in this area.

Author's Declaration

This work is my sole original work.

Funding

The author received no funding support for the research or publication of this article.

Data availability

The dataset used for this study will be made available upon reasonable request from the author.

REFERENCES

- Adeoye-Agboola, D. I., & Evans, H. (2015). The relationship between anxiety and academic performance of postgraduate international students in a British University: A cross-sectional quantitative design. *Science Journal of Public Health* 3(3), 331–338.
- Adjorlolo, S., Anum, A., & Huang, K. Y. (2022). Adverse life experiences and mental health of adolescents in Ghana: A gendered analysis. *International Journal of Adolescence and Youth*, 27(1), 444 – 456. <https://doi.org/10.1080/02673843.2022.2123714>
- Agnafors, S., Barmark, M., & Sydsjö, G. (2021). Mental health and academic performance: A study on selection and causation effects from childhood to early adulthood. *Social Psychiatry and Psychiatric Epidemiology*, 56, 857–866. <https://doi.org/10.1007/s00127-020-01934-5>
- Agormedah, E. K., Britwum, F., Amoah, S. O., Adjei, E., & Kusi-Appiah, V. (2024). Psychological distress and students' academic achievement in the Colleges of Education: Does gender matter? *Nepal Journal of Multidisciplinary Research*, 7(1), 40–61. <https://doi.org/10.3126/njmr.v7i1.65245>
- Ahorsu, D. K., Adjaottor, E. S., Yeboah, F. A., & Opoku, Y. (2021). Mental health challenges in academia: Comparison between students of the

- various educational levels in Ghana. *Journal of Mental Health*, 30(3), 292–299. <https://doi.org/10.1080/09638237.2020.1739253>
- Algarni, F. S. (2020). Gender differences in scores of anxiety and depression among physical therapy students of Saudi Arabia: A cross-sectional study. *Int J Physiother Res*, 8(4), 3537–46. <https://dx.doi.org/10.16965/ijpr.2020.145>
- Ali, M., Dhirani, M., & Fawad, F. (2024). Impact of depression on academic performance. *Bulletin of Multidisciplinary Studies*, 1(1), 34–45. <https://doi.org/10.48112/bms.v1i1.760>
- Andresen, E. M., Malmgren, J. A., Carter, W. B., & Patrick, D. L. (1994). Screening for depression in well older adults: Evaluation of a short form of the CES-D. *American Journal of Preventive Medicine*, 10(2), 77–84.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology & Health*, 13(4), 623–649. <https://doi.org/10.1080/08870449808407422>
- Baranne, M. L., & Falissard, B. (2018). Global burden of mental disorders among children aged 5–14 years. *Child and Adolescent Psychiatry and Mental Health*, 12, 1–9. <https://doi.org/10.1186/s13034-018-0225-4>
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4(1), 62–83. <https://doi.org/10.1177/109442810141004>
- Chu, T., Liu, X., Takayanagi, S., Matsushita, T., & Kishimoto, H. (2023). Association between mental health and academic performance among university undergraduates: The interacting role of lifestyle behaviors. *International Journal of Methods in Psychiatric Research*, 32(1), e1938. <https://doi.org/10.1002/mpr.1938>
- Corbett, M. (2015). From law to folklore: Work stress and the Yerkes-Dodson Law. *Journal of Managerial Psychology*, 30(6), 741–752. <https://doi.org/10.1108/JMP-03-2013-0085>
- Coy, M. J. (2019). Research methodologies: Increasing understanding of the world. *International Journal of Scientific and Research Publications*, 9(1), 71–77. <https://doi.org/10.29322/IJSRP.9.01>
- Das-Munshi, J., Lund, C., Mathews, C., Clark, C., Rothon, C., & Stansfeld, S. (2016). Mental health inequalities in adolescents growing up in post-apartheid South Africa: Cross-sectional survey, SHAW study. *PloS One*, 11(5), e0154478. <https://doi.org/10.1371/journal.pone.0154478>
- Edjah, K., Ankomah, F., Domey, E., & Laryea, J. E. (2020). Stress and its impact on academic and social life of undergraduate university students in Ghana: A structural equation modeling approach. *Open Education Studies*, 3, 37–44. <https://doi.org/10.1515/edu-2020-0100>
- Elias, H., Ping, W. S., & Abdullah, M. C. (2011). Stress and academic achievement among undergraduate students in Universiti Putra Malaysia. *Procedia-Social and Behavioral Sciences*, 29, 646–655. <https://doi.org/10.1016/j.sbspro.2011.11.288>
- Fakhrou, A., & Habib, L. H. (2022). The relationship between academic self-efficacy and academic achievement in students of the department of special education. *International Journal of Higher Education*, 11(2), 1–12. <https://doi.org/10.5430/ijhe.v11n2p1>
- García-Carrión, R., Villarejo-Carballido, B., & Villardón-Gallego, L. (2019). Children and adolescents' mental health: A systematic review of interaction-based interventions in schools and communities. *Frontiers in Psychology*, 10, 918. <https://doi.org/10.3389/fpsyg.2019.00918>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage. https://doi.org/10.1007/978-3-319-57413-4_15
- Högberg, B. (2023). Academic performance, performance culture, and mental health: An exploration of non-linear relationships using Swedish PISA data. *Scandinavian Journal of Educational Research*, 68(5), 919–934. <https://doi.org/10.1080/00313831.2023.2192752>
- Kechter, A., Black, D. S., Riggs, N. R., Warren, C. M., Ritt-Olson, A., & Chou, C. P. (2019). Factors in the perceived stress scale differentially associate with mindfulness disposition and executive function among early adolescents. *Journal of Child and Family Studies*, 28(3), 814–821. <https://doi.org/10.1007/s10826-018-01313-4>
- Keech, J. J., Hagger, M. S., O'Callaghan, F. V., & Hamilton, K. (2018). The influence of university students' stress mindsets on health and performance outcomes. *Annals of Behavioral Medicine*, 52(12), 1046–1059. <http://doi.org/10.1093/abm/kay008>
- Khalil, M., Ghayas, S., Adil, A., & Niazi, S. (2021). Self-efficacy and mental health among univer-

- sity students: Mediating role of assertiveness. *Rawal Medical Journal*, 46(2), 416–419.
- Kumar, S. G., Kattimani, S., Sarkar, S., & Kar, S. S. (2017). Prevalence of depression and its relation to stress level among medical students in Puducherry, India. *Industrial Psychiatry Journal*, 26(1), 86–90. http://dx.doi.org/10.4103/ipj.ipj_45_15
- Kusi-Mensah, K., Donnir, G., Wemakor, S., Owusu-Antwi, R., & Omigbodun, O. (2019). Prevalence and patterns of mental disorders among primary school age children in Ghana: Correlates with academic achievement. *Journal of Child and Adolescent Mental Health*, 31(3), 214–223. <https://doi.org/10.2989/17280583.2019.1678477>
- Lin, X. J., Zhang, C. Y., Yang, S., Hsu, M. L., Cheng, H., Chen, J., & Yu, H. (2020). Stress and its association with academic performance among dental undergraduate students in Fujian, China: A cross-sectional online questionnaire survey. *BMC Medical Education*, 20(1), 1–9. <https://doi.org/10.1186/s12909-020-02095-4>
- Lister, K., Seale, J., & Douce, C. (2021). Mental health in distance learning: A taxonomy of barriers and enablers to student mental wellbeing, open learning. *The Journal of Open, Distance and e-Learning*. <https://doi.org/10.1080/02680513.2021.1899907>
- Malakcioglu, C. (2022). Validity and reliability of the anxiety assessment scale: A new three-dimensional perspective. *Medeni Med Journal*, 37(2), 165–172. <https://doi.org/110.4274/MMJ.galenos.2022.75318>
- Malik, A. I., Batool, R., & Tabassum, S. (2024). Academic self-efficacy, academic motivation and coping skills in academia: A cross-sectional exploration. *Pakistan Journal of Humanities and Social Sciences*, 12(1), 573 – 580. <https://doi.org/10.52131/pjhss.2024.v12i1.2047>
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205–222. <https://doi.org/10.24059/olj.v22i1.1092>
- McGregor, C. (2015). Development and validation of the academic performance scale (APS). *International Journal of Research Publication and Reviews*, 5(3), 380–388.
- Mofatteh, M. (2020). Risk factors associated with stress, anxiety, and depression among university undergraduate students. *AIMS Public Health*, 8(1), 36–65. <https://doi.org/10.3934/publichealth.2021004>
- Muhammed, K., Terna, I. G., & Saanyol, D. B. (2018). The relationship between depression and academic performance among undergraduate students of Benue State University Makurdi, Nigeria. *International Journal of Education and Evaluation*, 4(6), 77–85.
- Obeng-Okon, N. a. S., Opoku, D. A., Ayisi-Boateng, N. K., Osarfo, J., Amponsah, O. K. O., Ashilevi, J., Agyemang, S., Bernard, F., Addai-Manu, H., & Mohammed, A. (2024). Prevalence and correlates of depression among students in a senior high school in Ghana: A school-based cross-sectional study. *SAGE Open Medicine*, 12. <https://doi.org/10.1177/20503121241229841>
- Oketch-Oboto, J. W. B., & Okunya, L. O. (2018). The relationship between levels of stress and academic performance among University of Nairobi Students. *International Journal of Learning and Development*, 8(4), 1–28. <https://doi.org/10.5296/ijld.v8i4.13840>
- Olson, M. H., & Hergenhahn, B. R. (2012). *An introduction to the theories of learning* (9th ed.). Routledge.
- Ornaghi, V., Pepe, A., & Grazzani, I. (2016). False-belief understanding and language ability mediate the relationship between emotion comprehension and prosocial orientation in preschoolers. *Frontiers in Psychology*, 7, 1534. <https://doi.org/10.3389/fpsyg.2016.01534>
- Panayiotou, M., & Humphrey, N. (2018). Mental health difficulties and academic attainment: Evidence for gender-specific developmental cascades in middle childhood. *Development and Psychopathology*, 30(2), 523–538. <https://doi.org/10.1017/S095457941700102X>
- Puthran, R., Zhang, M. W., Tam, W. W., & Ho, R. C. (2016). Prevalence of depression amongst medical students: A meta-analysis. *Medical Education*, 50(4), 456–468. <https://doi.org/10.1111/medu.12962>
- Riglin, L., Petrides, K. V., Frederickson, N., & Rice, F. (2014). The relationship between emotional problems and subsequent school attainment: a meta-analysis. *Journal of Adolescence*, 37(4), 335–346. <https://doi.org/10.1016/j.adolescence.2014.02.010>
- Sadry, A. M., Habibi, M. N., & Aslamy, T. A. (2022). The relationship between mental health and academic achievement of students of faculty of education at Kunduz University. *Spr*

- Journal of Arts Humanities and Social Sciences*, 9–17. <https://doi.org/10.55559/sjahss.v1i10.57>
- Samaha, M., & Hawi, N. S. (2016). Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Comput. Hum. Behav.*, 57, 321–325. <https://doi.org/10.1016/j.chb.2015.12.045>
- Shi, M., Liu, L., Wang, Z. Y., & Wang, L. (2016). Prevalence of depressive symptoms and its correlations with positive psychological variables among Chinese medical students: An exploratory cross-sectional study. *BMC Psychiatry*, 16(1), 3–10. <https://doi.org/10.1186/s12888-016-0710-3>
- Silva, S. A., Silva, S. U., Ronca, D. B., Gonçalves, V. S. S., Dutra, E. S., & Carvalho, K. M. B. (2020). Common mental disorders prevalence in adolescents: A systematic review and meta-analyses. *PloS One*, 15(4), e0232007. <https://doi.org/10.1371/journal.pone.0232007>
- Stieger, S., Lewetz, D., & Willinger, D. (2023). Face-to-face more important than digital communication for mental health during the pandemic. *Scientific Reports*, 13(1), 8022. <https://doi.org/10.1038/s41598-023-34957-4>
- Stone, L. L., Otten, R., Engels, R. C., Kuijpers, R. C., & Janssens, J. M. (2015). Relations between internalizing and externalizing problems in early childhood. *Child & Youth Care Forum*, 44, 635–653. <https://doi.org/10.1007/s10566-014-9296-4>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson Education.
- Tamminga, S. J., Emal, L. M., Boschman, J. S., Levasseur, A., Thota, A., Ruotsalainen, J. H., Schelvis, R. M., Nieuwenhuijsen, K., & van der Molen, H. F. (2023). Individual-level interventions for reducing occupational stress in health-care workers. *The Cochrane Database of Systematic Reviews*, 5(5), CD002892. <https://doi.org/10.1002/14651858.CD002892.pub6>
- Van Hoek, G., Portzky, M., & Franck, E. (2019). The influence of socio-demographic factors, resilience and stress reducing activities on academic outcomes of undergraduate nursing students: A cross-sectional research study. *Nurse Educ.*, 72, 90–96. <https://doi.org/10.1016/j.nedt.2018.10.013>
- Wang, S. (2024). Problems with students' mental health in the context of online learning. *Transactions on Social Science, Education, and Humanities Research*, 5, 44–48. <https://doi.org/10.62051/2r8w5b08>
- World Health Organization. (2022). *World mental health report: Transforming mental health for all*. World Health Organization.
- Youssef, F. F. (2016). Medical student stress, burn-out and depression in Trinidad and Tobago. *Academic Psychiatry*, 40, 69–75. <https://doi.org/10.1007/s40596-015-0468-9>
- Zada, S., Wang, Y., Zada, M., & Gul, F. (2021). Effect of mental health problems on academic performance among university students in Pakistan. *Int. J. Ment. Health Promot*, 23, 395–408. <http://dx.doi.org/10.32604/IJMHP.2021.015903>
- Zahit, R. A., Lim, S. L. O., & Ling, J. L. Y. (2022). COVID-19: Mental health and academic performance among university students. *Trends in Undergraduate Research*, 5(1), e1–9. <https://doi.org/10.33736/tur.3861.2022>