

An Examination of Mindfulness and Academic Resilience among Higher Education Students amidst COVID-19 Pandemic in Ghana

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How to cite this paper: Mahama, I., Danquah, S. O., Ammah, C., Amos, P. M., & Eshun, P. (2023). An Examination of Mindfulness and Academic Resilience among Higher Education Students amidst COVID-19 Pandemic in Ghana. *Psychology, 14*, 974-999. <https://doi.org/10.4236/psych.2023.146052>

Received: May 1, 2023

Accepted: June 27, 2023

Published: June 30, 2023

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Abstract

The COVID-19 pandemic has disrupted many aspects of higher education students' lives. The COVID-19 has influenced their cognitive abilities regarding schoolwork, balancing their lives, and maintaining academic success using mindfulness awareness and academic resilience as productive strategies. Therefore, this study examined Ghanaian students' mindfulness and academic resilience amid the pandemic with a descriptive quantitative design survey. Data for the study were collected with adapted versions of the mindfulness and academic resilience scales. The data were analysed using descriptive and inferential procedures. The study revealed that students were mindful about themselves in the pandemic, and their level of academic resilience was high. In addition, the study found no statistically significant differences in mean scores of mindfulness between male and female students and their academic levels, but statistically significant differences existed in mean scores of academic resilience and their academic levels. In this regard, the study concludes that students were mindful and resilient about activities they do during the pandemic. Therefore, higher learning institution management and faculty need to devote time in advocating for and training of students about mindfulness and resilience, as well as providing them with the best strategies for their application.

Keywords

Mindfulness, Academic Resilience, COVID-19, Pandemic, Higher Education

1. Introduction

The COVID-19 pandemic has had a profound and far-reaching impact on edu-

cation worldwide. With the spread of the virus and subsequent lockdown measures, educational institutions at all levels, from primary schools to universities, have faced significant challenges and disruptions. The influence of COVID-19 on education can be seen across various aspects, including teaching and learning methods, access to education, mental health, and overall academic performance. The COVID-19 pandemic has thwarted many aspects of human life, including educational institutions. Learners affected by this epidemic are forced to deal with various issues that can contribute to psychological stress and mental health problems, including increased responsibility, financial pressures, pressure to achieve, and changes in their support network (Liu, 2019). The World Health Organization's updates as of October 28, 2022, show positive cases at 626,337, with death cases at 6566 (WHO, 2022). According to Ghana Health Service records as of October 25, 2022, there were 1676 COVID-19 positive cases and 1460 deaths (Ghana Health Service, 2022). With such daunting records, many higher education students may experience increased psychological problems (Arslan et al., 2021; Yıldırım & Solmaz, 2022). Yıldırım et al. (2022) observe that the problems of COVID-19 are exacerbated by the increasing news of escalation and deaths among those affected. Based on these, life becomes altered with new and challenging preventive protocols (social distancing, lockdown, and wearing of masks).

Along with the psychosocial pressures mentioned above, the scenario created by the COVID-19 epidemic is yet another obstacle that learners must overcome, and all of these difficulties have combined to create a global mental health crisis in the wake of the coronavirus outbreak. Due to the continuous increase in COVID-19 positive cases reported by the media, it has called for more efforts to be made by learners concerning mindfulness and academic resilience. With the difficulties involved in managing academic life during the COVID-19 pandemic, these forms of psychological abilities are required by learners to face adversities to meet their individual and group targets in school. Mindfulness may also help people think about what they do by making them think about positive ways to live, which could help them avoid getting the COVID-19 disease.

Mindfulness is defined as the consciousness that develops from paying attention to purpose in the present moment, and mindfulness in a secular setting is defined as non-judgmental (Kabat-Zinn, 2005). According to González-García et al. (2016), mindfulness is about mental training in which people learn to focus their attention purposefully to gain greater consciousness of their opinions, feelings, physical sensations, and behaviours. This improved consciousness may reinforce the self-regulation skills required to efficiently manage life challenges and advance a profound sense of wellbeing (McGillivray & Pidgeon, 2015). These mechanisms are of particular interest in the face of the COVID-19 pandemic. Teaching people to be mindful could contribute to their wellbeing, as it may lead to a more formally accountable behaviour in the period of adversity (Wells & Klocko, 2018). Antonova et al. (2021) note that there are three elements to this definition that characterise mindfulness: our innate ability of at-

tention to bring our experience to the forefront of our awareness; a process of doing so to direct it toward the present moment experiences, without judging them as likeable or dislikeable, pleasant or unpleasant, “good” or “bad”; and awareness of certain qualities that arise as a “result” of applying the ability and the process. Based on this, mindfulness practise in the context of COVID-19 may be beneficial in that it may help to reduce aggressive or violent behaviours that are driven by increased irritability and impulsivity that may be brought about by strict social distancing and other preventive measures (Antonova et al., 2021). Mindfulness also improves happiness (Lomas et al., 2017), self-compassion, and emotional intelligence (Lomas et al., 2017; Neff & Germer, 2017). Mindfulness can help students learn better during this pandemic and reduce emotional pain (Posner & Rothbart, 2005). A mindful student is more likely to use his or her working memory to concentrate on the content that must be learned rather than fret about an uncertain situation (Moore & Malinowski, 2009).

Contemporary mindfulness interventions, which were initially founded on ancient contemplative traditions, incorporate relaxation and meditation practises into systematic training, often including additional aspects of cognitive behavioural therapy (Kabat-Zinn, 2014). The practise of mindfulness techniques varies depending on the practitioner’s preference, but they all require the repetition of non-judgmental observations to attain mental stability and a state of mindfulness characterised by relaxed alertness to distracting thoughts (Wielgosz et al., 2019).

The halo effect of COVID-19 has created a strong need for students to improve innovative ideas and strategies such as mindfulness to manage their learning, create a sense of positive health and wellbeing, and at the same time protect themselves against the deadly disease (Gabrieli et al., 2021). Mindfulness strategies are suitable for learners who appear to be challenged in their academic adventures amid the COVID-19 pandemic. These strategies have passed the test of time in offering psychophysiological benefits to learners in situations of uncertainty are mindfulness and academic resilience (An et al., 2019; Goldberg et al., 2023; Pascoe et al., 2021).

Mindfulness has proven to be helpful in times of catastrophe and in improving various psychological and bodily diseases in various settings (Antonova et al., 2021; Sanilevici et al., 2021). Mindfulness is one of the psychological mechanisms that can be used to mediate the effects of COVID-19. Mindfulness can be purposefully cultivated as a nonjudgmental psychological procedure in dealing with stressful situations by accepting the immediate COVID-19 problems with an open mind (La Torre et al., 2020). Research has shown that mindfulness has the ability to improve psychological wellbeing and reduce stress in the midst of adversity (Beitel et al., 2005; Voci et al., 2019). Aside from this, Keng et al. (2011) found that mindfulness does not only improve mental health or reduce its impact, but it also helps mediate the impact of pandemics in terms of improving the physical health and emotional wellbeing of people. A study conducted by Yıldırım et al. (2022) found that mindfulness predicted flourishing

(psychological well-being) and mediated the relationship between self-compassion and flourishing when people find themselves in difficult situations.

A study conducted among adults with mindfulness found that women gained more from school-based mindfulness training than men, according to [Rojiani et al. \(2017\)](#) while [Alispahic and Hasabegovic-Anic \(2017\)](#), using a sample of 200 males and 223 females from 12 Bosnian cities found no significant differences in mindfulness between men and women in the study. However, Baer et al. found substantial gender differences in the five components of the mindfulness questionnaire (FFMQ). In similar vein, [Wang and Chopel \(2017\)](#) found that female students in information systems (IS) indicated an excellent range of mindfulness dispositions than their male counterparts. [Wang and Chopel \(2017\)](#) concluded that there were substantial gender differences in mindfulness and discovered that male participants scored higher on mindfulness than female participants in a sample of 398 college students.

Similarly, [Tasneem and Panwar \(2019\)](#) conducted a quasi-experimental study among Bosnian college students. Their study revealed that both genders reported moderate academic self-confidence and mindfulness levels. However, no significant gender differences were found in self-confidence and mindfulness between male and female undergraduate students. [Ahmadi et al. \(2014\)](#) conducted a study among undergraduate students in Malaysia to determine their level of mindfulness and other relevant aspects. They discovered that the participants had an average level of mindfulness. Several factors were identified as contributing to the discovery, including organisational mindfulness, deficiencies, and the university's particular position within society, with its own set of criteria and constraints. This finding sheds light on the state of mindfulness among this specific population and contributes to our understanding of mindfulness in the context of adversities. Understanding and promoting mindfulness can have important implications for overall well-being and academic performance people in the period pandemic. Another survey found that 81 percent of college students used mindfulness techniques such as lowering body tension, focusing on the task at hand, and feeling more in control ([Yamada & Victor, 2012](#)). Furthermore, in addition to the potential benefits of mindfulness in improving focus and reducing stress, the concept of academic resilience has garnered considerable attention in social science research. This line of inquiry has specifically targeted individuals who have encountered challenging life circumstances and experiences ([Karabiyik, 2020](#)).

Interestingly, the study conducted by [Strickland and Selwyn \(2019\)](#) at the University of Minnesota provides a connection between mindfulness and academic resilience. By comparing undergraduate students assigned to a mindfulness meditation group with those who did not learn the technique, the researchers discovered that the mindfulness meditation group exhibited noteworthy improvement in attention assessment. This finding suggests that developing mindfulness skills in college could potentially contribute to enhancing academic resilience, as the ability to maintain focus and manage stress are crucial factors in

overcoming adversity and succeeding academically. Therefore, the integration of mindfulness practices into educational environments holds promise for fostering both focus and resilience among students.

Tedious workloads, academic pressure, social changes, financial responsibilities, and difficulties in managing employment and family life can all be acute stressors for students in HE (McCann & Hicks, 2011; Park & Adler, 2003). However, research has shown that resilience, the ability to succeed in the face of adversity, can help students not just cope, but thrive in challenging situations. Resilience is not a fixed characteristic, but rather a developmental process that can be accelerated by learning fundamental skills or enhancing protective factors associated with resilient behaviour (Cooper et al., 2020). In fact, individuals' ability to handle and recover from setbacks and obstacles has been shown in numerous studies to improve when they have enhanced resilience (Abbott et al., 2009; Reivich & Shatte, 2002). Strengthening positive human characteristics and increasing resilience may be connected with reductions in psychological distress, particularly anxiety and depressive symptoms (Steinhardt & Dolbier, 2008). It is not just a matter of coping, students in HE have demonstrated that resilience is a significant and unique predictor of successful coping during adversity (McLafferty et al., 2009), and higher levels of resilience are associated with lower levels of psychological distress (Abbott et al., 2009; Steinhardt & Dolbier, 2008). Therefore, if you are looking to not just survive but also thrive in the face of adversity, building resilience is key.

During the outbreak of COVID-19, several scholars explored how resilience could be used to mediate its extensive impact. For instance, Yildirim and Belen (2018) indicate that resilience has the potential to affect mental distress, wellbeing, and general quality of life. Yildirim and Belen (2018) indicate that resilience has the potential to affect mental distress, wellbeing, and general quality of life. Yildirim and Arslan's (2022) study corroborated this. They found resilience to be a significant predictor of mental health and wellbeing in people at the initial stages of COVID-19. Higher levels of resilience could also serve as a panacea for reduced stress and improved social adjustment, and vice versa. Hu et al. (2023) discovered emotional resilience as a moderator between perceived stress, social adjustment, and life satisfaction during the COVID-19 pandemic in a study. Their study also found that low emotional resilience led to an increase in perceived stress and a reduction in life satisfaction. This, undoubtedly, demonstrates how significant resilience is in the midst of a pandemic. Therefore, it is worthy to note that the impact of pandemics on mental health is great when those affected lack the needed psychological buffer like resilience.

Studies on gender variations in academic resilience exist and the literature presents conflicting findings on gender differences in academic resilience. Some studies suggest that females exhibit higher resilience levels, while others indicate males being more resilient. However, there are also studies that report no significant gender differences in resilience. The inconsistent findings may stem from variations in contexts, populations studied, and the specific dimensions or fac-

tors of resilience examined. For instance, Wasonga (2002) found that girls had higher resilience scores than boys among 9th and 12th graders in the Midwest. The initial finding of Wasonga (2002) corroborates that of Sun and Stewart (2007), who found substantial gender differences in communication, empathy, help seeking, and goals and aspirations among 2492 Australian students in the 3rd and 7th grades, with females dominating. Mbindyo (2011) discovered that among the 106 ethnically diverse minority students in the intervention program, females were more resilient. Furthermore, a study among 117 Northern Irish undergraduate students found that females showed higher academic resilience than males (McLafferty et al., 2012). Indifferently, Walker-Noack et al. (2013), in a study among students, observed gender differences in favour of female students in the resilience sub-factors of optimism, conduct of life, communication/relationship building, and research. A four-stage analysis conducted by Allan et al. (2014) demonstrated incremental resilience to be more beneficial to female students' academic success than male students did. In a survey of 333 Turkish music education students, females scored considerably higher in the self-perception, future perception, and social resources subdimensions (Yokuş, 2015). Mwangi and Ileri (2017) and Mwangi et al. (2018) found significant gender inequalities in Kenyan secondary school students. Among a sample of pharmacy students, Chisholm-Burns et al. (2019) discovered gender differences in reflecting and adapting the help-seeking dimensions of academic resilience. Taking a cue from the above studies, it is accurate to state that female students possessed greater resilient abilities than their male counterparts in the face of adversity did. The female dominance in resilience could result from their nature of hoping for the best future when struck by uncertainty, hence their ability to withstand pressure and life adversities (Raile et al., 2021). Again, females' ability to become more resilient than males could be because they have more exposure to the stresses that come from being excluded from the privileges that come automatically to males.

Contrarily, a study of 402 Australian high school students found males more resilient. A similar study indicated that male students scored considerably higher among 598 Australian high school students in grades 8 and 10, where males are more resilient than females (Sarwar, Inamullah, Khan, & Anwar, 2010). Similarly, in Ulker Tumlu's (2013) study of 735 undergraduate students at a Turkish university's Faculty of Education, males had more resilience than females. Erdogan et al. (2015) found gender inequalities favouring males in a study of 596 Turkish undergraduate students concerning resilience. Yavuz and Kutlu (2016) discovered that females were more resilient than males in a sample of 304 12th grade students. Based on these empirical reviews, it is undoubtedly clear that males possess more resilient abilities than females. The male dominance regarding resilience could result from males' perseverance in the face of adversity, as contrasted by several researchers (Bezek, 2010; Erdoga et al., 2015; Sambu & Mhongo, 2019).

Mustafa (2020) consistently observed no gender differences among 152 Tur-

kish high school students. Among 113 regular and 69 remedial medical students, [Elizondo-Omana et al. \(2010\)](#) observed no gender differences in academic resilience. A study involving Turkish primary school students found no gender differences ([Baltaci & Karataş, 2015](#)). Resilience levels among British undergraduate students were not found to differ by gender. [Rao and Krishnamurthy \(2018\)](#) found no difference in resilience between males and females in a study of 125 students from a public school in India. Based on the literature, it is evident that gender differences and resilience abilities are inconclusive because both males and females possess greater resilience abilities than others. This finding may not be surprising because context and situations differ when facing adversity in life; thus, inconsistent findings in the literature.

In Ghana, the COVID-19 pandemic led to a shift in higher education institutions' instructional methods. Traditional face-to-face instruction has been replaced with a blended mode that combines partial face-to-face teaching with online learning ([Mahama et al., 2021](#)). This change was necessitated by the increasing number of positive COVID-19 cases, which prompted the need for alternative teaching approaches while ensuring the continuity of education. While the shift to a blended mode of instruction is commendable, it has presented challenges for both faculty and students. Undergraduate students are an appropriate group to study in this context for several reasons. For instance, [Larcombe et al. \(2016\)](#) and [Stallman \(2010\)](#) highlight that college students, including undergraduates, are particularly vulnerable to stress and psychological distress. Their experiences during the pandemic and their levels of mindfulness and academic resilience are crucial to understanding their well-being and academic progress. Again, undergraduate students represent a significant portion of the higher education population and their perspectives can provide valuable insights into the challenges and strategies employed in navigating the pandemic.

It is important to investigate the level of mindfulness and academic resilience among higher education students in Ghana and globally during the COVID-19 pandemic. While existing studies in Ghana have focused on learning styles, perceptions of online learning, and challenges faced by teachers ([Agormedah et al., 2020](#); [Henaku, 2020](#); [Adarkwah, 2021](#)), empirical research specifically examining mindfulness and academic resilience among higher education students in these difficult times is lacking.

Understanding the experiences, coping mechanisms, and academic outcomes of undergraduate students during the pandemic can inform educational institutions and policymakers about the support and resources needed to enhance their well-being and academic success. By exploring the role of mindfulness and academic resilience, researchers can shed light on the strategies employed by students to mitigate the effects of COVID-19 on their educational journey. This knowledge can contribute to the development of effective interventions and support systems to assist undergraduate students in overcoming challenges and achieving their academic goals during the pandemic. Therefore, the current study sought to fill this literature gap by using university students in Ghana. Based on

this, the study was guided by the following questions and hypotheses:

Research Questions

1) What are the experiences of higher education students regarding mindfulness in the COVID-19 pandemic?

2) What is the level of academic resilience among higher education students in the COVID-19 pandemic?

Research hypotheses

1) **H₁**: There are no statistically significant differences in mindfulness between male and female students amidst COVID-19.

2) **H₂**: There will be no statistically significant differences in mindfulness among the levels of students amidst COVID-19.

3) **H₃**: There are no statistically significant differences academic resilience between male and female students amidst COVID-19.

4) **H₄**: There are no statistically significant differences academic resilience among the levels of students amidst COVID-19.

2. Methods and Materials

Design

The study employed descriptive quantitative methods in conducting the study. This method was used because it enabled the researchers to present issues descriptively and numerically and gives less room for manipulating the variables under investigation or the environment they are found. According to [Shuttleworth \(2008\)](#), by using descriptive quantitative methods, subjects are being observed in a completely natural and unchanged natural environment.

Participants

The population for the study consisted of undergraduate students pursuing various programmes at the University of Education, Winneba. The population comprises males ($n = 183$) and females ($n = 174$), distributed among levels like level 100 ($n = 195$), level 200 ($n = 105$), and level 300 ($n = 55$), with a mean age of 22.61. No level 400 student was used because they had gone out for a teaching internship as part of the investigation period. Therefore, out of an undergraduate population of 15,447, a sample of 357 was used for the study. The sample size was determined using the G-power calculation. The G-Power was used because it offered adequate sample sizes for the cases involved in the analytical procedures chosen for this study, with a power level of .8 and a significance level of .05. Again, G-Power was appropriate for the study because it offered precision to the series of statistical tests performed by the researchers. According to [Faul et al. \(2007\)](#), G-Power is preferred to any other technique for determining sample sizes because it is flexible and precise.

Respondents for the study were conveniently and randomly sampled during face-to-face lecture sessions during the COVID-19 period. This sampling technique was used because students at the university can only be reached for studies of this sort when they attend lectures. Because the lecture venues were the only

convenient places that students could be located, the researchers used the lecture periods, with the assistance of course facilitators at the respective levels, to recruit and engage students for participation. As a nonprobability technique, its use was feasible, considering the university's protocol for curbing the COVID-19 pandemic. Lavrakas (2008) notes that, in using the convenience sampling technique, the primary selection criterion relates to the geographical distribution of the sample and obtains the needed data from the sampling frame.

Measures

The data for the study was gathered using two adapted scales: the (1) Mindful Attention Awareness Scale [15 items, $\alpha = .784$] developed by Carlson and Brown (2005) and the (2) Academic Resilience Scale [ARS-30, $\alpha = .706$] developed by Cassidy (2016). The Mindful Attention Awareness Scale was unidimensional, with a 6-point scale ranging from almost always = 1 to almost never = 6. The Academic Resilience Scale was multidimensional (perseverance = 14 items; reflecting and adaptive help-seeking = 9 items; negative affect and emotional response = 7 items) and was scored on a four-point scale ranging from strongly disagree = 1 to strongly agree = 4.

Data analysis

The data collected were analysed descriptively (means and standard deviations for research question one and two) and inferentially (independent samples t-test for hypothesis one, one-way between-groups analysis of variance for hypothesis two, and one-way between-groups multivariate analysis of variance for hypotheses three and four).

3. Results and Discussion

The study was guided by two research questions and four research hypotheses. Their results are presented in the ensuing pages.

Research Question 1: What are the experiences of higher education students regarding mindfulness in the COVID-19 pandemic?

The question was about the experience of mindfulness among students in higher educational institutions in the COVID-19 pandemic. To ascertain whether students exhibit mindfulness awareness or not, an average mean score was established for the scale. This, $1 + 2 + 3 + 4 + 5 + 6 = 21/6 = 3.5$. With this, any mean value above 3.5 indicates students are applying mindfulness in the COVID-19 pandemic, while a mean value below 3.5 indicates students are not applying mindfulness amid COVID-19. Table 1 presents the results:

Table 1 was about students' experiences of mindfulness amidst the COVID-19 pandemic. The results show that students do not unconsciously experience some emotions until sometimes later ($M = 3.65$, $SD = 1.71$) and do not carelessly break things without paying attention ($M = 4.45$, $SD = 1.65$). Again, students do not find it difficult to focus on what is happening ($M = 3.78$, $SD = 1.82$) and tend not to walk quickly without paying attention to what is being experienced ($M = 3.69$, $SD = 1.73$). Furthermore, students do not take snacks without being aware

Table 1. Experience of mindfulness awareness among higher education students.

Statements	Mean	SD
In this COVID-19 pandemic, I could be experiencing some emotion and not be conscious of it until sometime later.	3.65	1.71
In this COVID-19 pandemic, I break or spill things because of carelessness, not paying attention, or thinking of something else.	4.45	1.65
In this COVID-19 pandemic, I find it difficult to stay focused on what's happening in the present.	3.78	1.82
In this COVID-19 pandemic, I tend to walk quickly to get where I'm going without paying attention to what I experience along the Way.	3.69	1.73
In this COVID-19 pandemic, I tend not to notice feelings of physical tension or discomfort until they get my attention.	3.64	1.63
In this COVID-19 pandemic, I forget the information almost as soon as I have been told it for the first time.	4.21	1.61
In this COVID-19 pandemic, it seems I am "running on automatically," without much awareness of what I'm doing.	4.38	1.57
In this COVID-19 pandemic, I rush through activities without being attentive to them.	4.15	1.73
In this COVID-19 pandemic, I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	3.34	1.91
In this COVID-19 pandemic, I engage in tasks automatically without being aware of what I am doing.	4.23	1.62
In this COVID-19 pandemic, I find myself listening to someone with one ear, doing something else at the same time.	3.86	1.73
In this COVID-19 pandemic, I go to places and then wonder why I went there.	4.57	1.69
In this COVID-19 pandemic, I find myself preoccupied with the future or the past.	3.94	1.59
In this COVID-19 pandemic, I find myself doing things without paying attention.	4.32	1.73
In this COVID-19 pandemic, I take some snacks without being aware that I'm eating	4.56	1.69
Mean of Means	4.05	1.67

of the pandemic period ($M = 4.56$, $SD = 1.69$) and do not do things without paying attention ($M = 4.32$, $SD = 1.73$). More so, in the COVID-19 pandemic, students appear not to act automatically without much awareness ($M = 4.38$, $SD = 1.61$) or rush through activities without being attentive to them ($M = 4.15$, $SD = 1.73$). Lastly, students amid the COVID-19 pandemic do not go to places without any possible reason ($M = 4.57$, $SD = 1.69$) and do not engage in tasks without knowing why they engaged in such tasks ($M = 4.23$, $SD = 1.62$). Based on a mean of means value of 4.05 and a standard deviation of 1.67, higher education students are generally aware of themselves in the presence of COVID-19.

Research Question 2: What is the level of academic resilience among higher education students in the COVID-19 pandemic?

The question was about academic resilience among students in higher educational institutions amid the COVID-19 pandemic. To ascertain whether students exhibit high or low academic resilience, an average mean score was established for the scale: $1 + 2 + 3 + 4 = 10$; $4 = 2.5$. With this, any mean value above 2.5 in-

icates that students have high academic resilience in the COVID-19 pandemic, while a mean value below 2.5 indicates low academic resilience amid COVID-19.

Table 2 presents the results:

Table 2. Level of academic resilience among higher education students.

Statements	Mean	SD	Decision
I would not accept the lecturers' feedback in this COVID-19 pandemic.	1.59	.79	Disagree
I would use the feedback to improve my work in this COVID-19 pandemic.	3.27	.80	Agree
I would just give up on this COVID-19 pandemic.	1.55	.79	Disagree
I would use the COVID-19 pandemic situation to motivate myself.	3.13	.90	Agree
I would change my career plans because of the COVID-19 pandemic.	1.56	.86	Disagree
I would probably get annoyed in this COVID-19 pandemic.	1.87	.89	Disagree
I would begin to think about my chances of success during this COVID-19 pandemic.	3.00	.91	Agree
I would see the COVID-19 pandemic situation as a challenge.	3.02	.97	Agree
I would do my best to stop thinking negative thoughts in this COVID-19 pandemic.	3.20	.86	Agree
I would see the COVID-19 pandemic situation as temporary.	3.12	.93	Agree
I would work harder in this COVID-19 pandemic.	3.31	.87	Agree
I would probably get unhappy in this COVID-19 pandemic.	2.16	.99	Disagree
I would try to think of new solutions in fighting the COVID-19 pandemic.	3.13	.96	Agree
I would be very disappointed in this COVID-19 pandemic.	2.06	.94	Disagree
I would blame the lecturers during this COVID-19 pandemic.	1.86	.98	Disagree
I would keep trying in this pandemic.	3.11	.81	Agree
I would not change my long-term goals and ambitions in this COVID-19 pandemic.	3.54	2.39	Agree
I would use my past successes to help motivate myself in this COVID-19 pandemic.	3.19	.87	Agree
I would begin to think my chances of getting the job I want were poor in this COVID-19 pandemic.	2.68	1.90	Agree
I would start to monitor and evaluate my achievements and effort in this COVID-19 pandemic.	3.22	.79	Agree
I would seek help from my lecturers in this COVID-19 pandemic.	3.32	.67	Agree
I would give myself encouragement in this COVID-19 pandemic.	3.40	.63	Agree
I would stop myself from panicking in this COVID-19 pandemic.	3.20	.82	Agree
I would try different ways to study this COVID-19 pandemic.	3.38	.77	Agree
I would set my own goals for achievement in this COVID-19 pandemic.	3.30	.77	Agree
I would seek encouragement from my family and friends in this COVID-19 pandemic.	3.15	.92	Agree
I would try to think more about my strengths and weaknesses to help me work better in this COVID-19 pandemic.	3.22	1.00	Agree
I would feel like everything was ruined and was going wrong in this COVID-19 pandemic.	2.08	1.02	Disagree
I would start to self-impose rewards and punishments depending on my performance in this COVID-19 pandemic.	2.65	1.01	Agree
I would look forward to showing that I can improve my grades in this COVID-19 pandemic.	3.41	.80	Agree
Mean of Means	2.82	.95	Agree

Table 2 shows the results on academic resilience among students amid the COVID-19 pandemic. It was found that students exhibited higher levels of academic resilience in their statements. For instance, students agreed that they use the feedback to improve their work in this COVID-19 pandemic ($M = 3.2$, $SD = .80$) and use the COVID-19 pandemic situation to motivate themselves ($M = 3.13$, $SD = .90$). Again, students agreed that they would not change their long-term goals and ambitions in this COVID-19 pandemic ($M = 3.54$; $SD = 2.39$) but would seek help from their lecturers in this COVID-19 pandemic ($M = 3.32$; $SD = .67$). Students agreed that they were looking forward to demonstrating that they could improve their grades in this COVID-19 pandemic ($M = 3.41$, $SD = .80$) and that they would try to think more about their strengths and weaknesses to help them work better in this COVID-19 pandemic ($M = 3.2$, $SD = 1.0$). Furthermore, students agreed that they would encourage themselves in this COVID-19 pandemic ($M = 3.40$, $SD = .63$) and stop panicking in this COVID-19 pandemic ($M = 3.20$, $SD = .82$). Finally, students agreed that they would use their past successes to help motivate themselves in this COVID-19 pandemic ($M = 3.19$, $SD = .87$) and start monitoring and evaluating their achievements and efforts in this COVID-19 pandemic ($M = 3.22$, $SD = .79$). Nevertheless, students scored low in some statements, but those mean scores did not affect the mean of the construct score. For instance, “I will change my career plans because of the COVID-19 pandemic, and I will feel like everything is ruined and going wrong in this COVID-19 pandemic.”

However, there were instances where students failed to exhibit academic resilience amid the COVID-19 pandemic. For example, students disagreed that they would not accept the lecturers’ feedback in this COVID-19 pandemic ($M = 1.59$, $SD = .79$) and disagreed that they would give up on this COVID-19 pandemic ($M = 1.55$, $SD = .79$). Again, students disagreed that they would change their career plans because of the COVID-19 pandemic ($M = 1.56$, $SD = .86$) and disagreed that they would probably get annoyed in this COVID-19 pandemic ($M = 1.87$, $SD = .89$). Moreover, students disagreed that they would probably get unhappy in this COVID-19 pandemic ($M = 2.16$, $SD = .99$) and disagreed that they would be very disappointed in this COVID-19 pandemic ($M = 2.06$, $SD = .94$). Furthermore, students disagreed that they would blame their lecturers during this COVID-19 pandemic ($M = 1.86$, $SD = .98$) and disagreed that they would feel like everything was ruined and was going wrong in this COVID-19 pandemic ($M = 2.08$, $SD = 1.02$). Based on the mean of means ($MM = 2.82$, $SD = .95$), students had higher levels of academic resilience.

Hypothesis 1: There will be no statistically significant differences in mindfulness awareness between male and female students amidst COVID-19

In **Table 3**, the researchers sought to test whether male and female higher education students differed in their mindfulness during the COVID-19 pandemic using the independent samples t-test. When the assumptions were tested, it was discovered that equality of variance was assumed for both male and female respondents, with a Levene’s test sig. value of .955. A sig. value of .193 was re-

corded to test for a potential difference between the compared groups. This means that there is no statistically significant difference in mean mindfulness scores between men [(M = 61.64, SD = 12.65) and women [(M = 59.90, SD = 12.69); $t(355) = 1.30, p > .193$, 2-tailed] respondents. Therefore, the null hypothesis that “There are no statistically significant differences between male and female students in terms of mindfulness amidst COVID-19” was not rejected.

Hypothesis 2: There will be no statistically significant differences mindfulness awareness among the levels of students amidst COVID-19

From **Table 4**, the researchers tested the hypothesis to determine if differences existed in mindfulness awareness among level 100, level 200, and level 300 students using a one-way ANOVA. To meet the required assumptions, the homogeneity of variance was looked at with a sig. value of .827. By implication, the homogeneity of variance assumption was not violated. To test for differences in mindfulness among the compared groups, the ANOVA table produced a sig. value of .176. As a result, there were no statistically significant differences in mindfulness between level 100, level 200, and level 300 higher education students; thus, $F(3, 354) = 1.74, p < .176$. Based on this, the null hypothesis that “there will be no statistically significant difference among the levels of students in terms of mindfulness” was not rejected.

Hypothesis 3: There will be no statistically significant differences in academic resilience between male and female students amidst COVID-19

From **Table 5**, the normality test assumption was met for the results, as the sample sizes for male and female respondents were greater than 30 (Pallant, 2020). As normality was satisfied, it was necessary to check the homogeneity of variance-covariance using the Box-M plot. Examination of the Box M plot shows a significant value of .000. This shows that the assumption has been violated. However, it was possible to continue interpreting the results; the Box M plot is noted to be sensitive to larger and equal sample sizes for the groups under consideration, of which the current study is not an exception (Tabachnick & Fidell, 2013). In furtherance, the equality of variance assumption was checked using Levene’s equality of error variance test. Even with a strict sig. value of .016, equal variances were assumed for perseverance ($p > .281$) and negative affect and emotional response ($p > .069$) but not for adaptive help seeking ($p < .009$) (Tabachnick & Fidell, 2013).

Table 3. Differences in mindfulness awareness between male and female students amidst COVID-19.

Variable	M	SD	Levene’s test	df	T	p
Male	61.64	12.65	.955	355	1.30	.193
Female	59.90	12.69				

Table 4. Differences in mindfulness awareness among the levels of students.

Measure	df	F (3, 354)	p
Mindfulness Awareness	3	1.74	.176

Table 5. Differences in academic resilience between male and female students amidst COVID-19.

Box's Test of Equality of Covariance Matrices							
Box's M				33.003			
F				5.450			
df1				6			
df2				906833.715			
Sig.				.000			
Levene's Test of Equality of Error Variances							
Measures	F	df1	df2	Sig.			
Perseverance	1.166	1	355	.281			
Adaptive Help-Seeking	6.875	1	355	.009			
Negative Emotions	3.321	1	355	.069			
Multivariate Tests							
	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.988	9306.016	3.000	353.000	.000	.988
	Wilks' Lambda	.012	9306.016	3.000	353.000	.000	.988
	Hotelling's Trace	79.088	9306.016	3.000	353.000	.000	.988
	Roy's Largest Root	79.088	9306.016	3.000	353.000	.000	.988
Gender	Pillai's Trace	.037	4.469	3.000	353.000	.004	.037
	Wilks' Lambda	.963	4.469	3.000	353.000	.004	.037
	Hotelling's Trace	.038	4.469	3.000	353.000	.004	.037
	Roy's Largest Root	.038	4.469	3.000	353.000	.004	.037
Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Gender	Perseverance	284.580	1	284.580	11.63	.001	.032
	Adaptive Help-Seeking	166.001	1	166.001	7.74	.006	.021
	Negative Emotions	21.913	1	21.913	1.82	.178	.005

In reporting the multivariate test, there was the need to consider the violated assumptions regarding the homogeneity of variance covariance and equality error variance. With this, the Pillai's trace was examined for potential differences. There are significant differences between the groups compared, as shown by $F(3, 353) = 4.47, p < .004, \eta^2 = .037$, and partial eta squared = .037 (small effect). The only differences with true statistical significance, using a Bonferroni adjusted alpha level of .017, were perseverance, $F(1, 356) = 11.63, p < .001$, partial eta squared = .032, and negative affect and emotional response, $F(1, 356) = 7.74, p < .006$, partial eta squared = .021. An inspection of the mean scores for perse-

verance indicated that males reported slightly higher levels of academic resilience in terms of perseverance ($M = 39.69$, $SD = 4.83$) than females ($M = 37.90$, $SD = 5.07$). In contrast, the inspection of the mean scores for negative affect and emotional response showed that males reported slightly higher levels of academic resilience in terms of negative affect and emotional response ($M = 29.51$, $SD = 3.97$) than females ($M = 28.15$, $SD = 5.24$). Based on this, the null hypothesis that “there will be no statistically significant differences in academic resilience between male and female students amidst COVID-19” was rejected.

Hypothesis 4: There is will be no statistically significant differences in academic resilience among the levels of students amidst COVID-19

From **Table 6**, the researchers sought to determine if there was statistical significance among the three levels (100 to 300) of higher education students. The normality test assumption was met for the results, as the sample sizes for level 100, level 200, and level 300 respondents were greater than 30 (Pallant, 2020: p. 465). As normality was satisfied, it was necessary to check the homogeneity of variance-covariance using the Box-M plot. Examination of the Box M plot shows a significant value of .000. This shows that the assumption has been violated. However, it was possible to continue interpreting the results because the Box M plot is sensitive to the larger sample size for the test (Tabachnick & Fidell, 2013), of which the current study is not an exception. In furtherance, the equality of variance assumption was checked using Levene’s equality of error variance test. It was found that equal variances were not assumed for perseverance ($p < .002$) and reflecting and adaptive help-seeking ($p < .000$) even with a stringent sig. value of .017 (Tabachnick & Fidell, 2013), but equal variance was assumed for negative affect and emotional response ($p > .060$). In reporting the multivariate test, there was the need to consider the violated assumptions regarding the homogeneity of variance covariance and equality error variance. With this, Pillai’s trace was examined for potential differences. It was found that there exist statistically significant differences among the groups compared; thus, $F(3, 353) = 8.08$, $p < .000$, $\eta^2 = .129$, partial eta squared = .064 (small effect). With the observation of statistically significant differences among the three compared groups, there was a need for a post hoc analysis with univariate on each dependent variable to identify which variables differed from the others after using Bonferroni to adjust the alpha level to 0.017. The univariate results showed that differences existed in perseverance ($F(2, 354) = 6.74$, $p < .001$, partial eta squared = .037), reflecting and adaptive help-seeking ($F(2, 354) = 18.59$, $p < .000$, partial eta squared = .095), and negative affect and emotional response ($F(2, 354) = 7.11$, $p < .001$, partial eta squared = .039).

An inspection of the mean scores for perseverance indicated that level 300 students reported slightly higher levels of academic resilience in perseverance ($M = 40.65$, $SD = 3.29$) than level 100 students ($M = 38.92$, $SD = 4.64$) and level 200 students ($M = 37.66$, $SD = 6.08$). Again, mean scores reflecting and adaptive help-seeking showed that level 300 students reported higher levels of academic resilience in terms of reflecting and adaptive help-seeking ($M = 30.07$, $SD =$

Table 6. Differences in academic resilience among the levels of students.

Box's Test of Equality of Covariance Matrices							
Box's M				77.903			
F				6.384			
df1				12			
df2				131,431.263			
Sig.				.000			
Levene's Test of Equality of Error Variances							
Measures	F	df1	df2	Sig.			
Perseverance	6.244	2	354	.002			
Adaptive Help-Seeking	16.203	2	354	.000			
Negative Emotions	2.830	2	354	.060			
Multivariate Tests							
	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.985	7565.174	3.000	352.000	.000	.985
	Wilks' Lambda	.015	7565.174	3.000	352.000	.000	.985
	Hotelling's Trace	64.476	7565.174	3.000	352.000	.000	.985
	Roy's Largest Root	64.476	7565.174	3.000	352.000	.000	.985
Level	Pillai's Trace	.129	8.080	6.000	706.000	.000	.064
	Wilks' Lambda	.873	8.224	6.000	704.000	.000	.065
	Hotelling's Trace	.143	8.366	6.000	702.000	.000	.067
	Roy's Largest Root	.127	14.906	3.000	353.000	.000	.112
Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Level	Perseverance	329.214	2	164.607	6.740	.001	.037
	Adaptive Help-Seeking	739.497	2	369.748	18.586	.000	.095
	Negative Emotions	165.790	2	82.895	7.106	.001	.039

3.99) than level 100 students ($M = 29.69$, $SD = 3.54$) and level 200 students ($M = 26.63$, $SD = 5.99$). Lastly, mean scores for negative affect and emotional response showed that level 300 students reported slightly higher levels of academic resilience in terms of negative affect and emotional response ($M = 17.98$, $SD = 3.54$), than level 100 students ($M = 17.34$, $SD = 3.60$), and level 200 students ($M = 16.07$, $SD = 2.97$). Based on significant differences, the null hypothesis that "There will be no statistically significant differences in academic resilience among levels of students amidst COVID-19" was rejected.

4. Discussion

The study revealed that higher education students were mindful of their lives and academic expeditions amid the COVID-19 pandemic. This result resonates with a survey that found 81 percent of college students showing higher levels of mindfulness techniques (Yamada & Victor, 2012). The results imply that higher education students are thoughtful, attentive, and reflective as they respect the protocols that are put in place to curb the continuous spread of the COVID-19 pandemic. As established by the study, mindfulness could help students in higher education manage anxiety issues, reduce stress, and regulate their minds for academic engagement. It is impossible to deny that the COVID-19 pandemic has ruined and destabilised many students at various academic levels. Therefore, learners' ability to regulate their thinking and emotions through mindfulness could go a long way toward helping them complete their academic programs, in as much as the pandemic keeps mutating itself. This demonstration of mindfulness ability among students will offer them psychophysiological benefits in dealing with COVID-19 uncertainties, as alleged by An et al. (2019), Goldberg et al. (2021), and Pascoe et al. (2021). Moreover, the study revealed that higher education students showed higher levels of academic resilience amid COVID-19. The results imply that students can withstand the uncertainties surrounding the global pandemic as they pursue their academic goals. The findings of the current study confirm the findings of several other studies. For example, students in higher education (HE) demonstrated higher levels of resilience (McLafferty et al., 2009), where higher levels of resilience were associated with lower levels of psychological distress experienced by students (Abbott et al., 2009; Steinhart & Dolbier, 2008).

The study revealed that there were no statistically significant differences between male and female higher education students and, as well, their educational levels regarding mindfulness. The finding of the current study contradicts the findings of several other studies. For instance, Rojiani et al.'s (2017) study on mindfulness found that women showed higher levels of mindfulness training than men. Likewise, Wang and Chopel's (2017) study found that female students showed higher levels of mindfulness than their male counterparts did. However, Alispahic and Hasabegovic-Anic's (2017) study corroborated the current study's finding of no differences in mindfulness between males and females. In terms of level of education, the current study's finding debunks that of Schmertz, Anderson, and Robins (2009), who found that the level of students and mindfulness are never related. Therefore, the stage at which students are in school does not have a bearing on their level of mindfulness.

In terms of differences in academic resilience, it was found that male and female higher education students differed substantially. For instance, male students possessed higher levels of academic resilience than their female counterparts did. The findings of the current study refute those of Mbindyo (2011), with females showing more resilient ability than males; McLafferty et al. (2012), with

females showing higher academic resilience than males; and Walker-Noack et al. (2013), with female students showing greater resilience in sub-factors such as optimism, the conduct of life, communication, and relationship building than men. Likewise, Wang and Chopel's (2017) study found that female students showed higher levels of mindfulness than their male counterparts did. However, Alispahic and Hasabegovic-Anic's (2017) study corroborated the current study's finding of no differences in mindfulness between males and females. In terms of level of education, the current study's finding debunks that of Schmertz, Anderson, and Robins (2009), who found that the level of students and mindfulness are never related. Therefore, the stage at which students are in school does not have a bearing on their level of mindfulness. In terms of differences in academic resilience, it was found that male and female higher education students differed substantially. For instance, male students possessed higher levels of academic resilience than their female counterparts did. The findings of the current study refute those of Mbindyo (2011), with females showing more resilient ability than males; McLafferty et al. (2012), with females showing higher academic resilience than males; and Walker-Noack et al. (2013), with female students showing resilience in sub-factors such as optimism, the conduct of life, communication, and relationship building. Finally, the study revealed significant differences in academic resilience (perseverance, reflection, adaptive help-seeking, and negative affect and emotional response) among level 100, level 200, and level 300 higher education students, where level 300 higher education students reported higher levels of academic resilience than level 200 and level 100 students amid COVID-19.

It is important to note that perseverance is an essential panacea for intellectual sustenance and success during a pandemic of any kind. Perseverance among learners allows them to withstand difficulties in their academic engagement and appreciate situations that might have caused some delay in specific academic tasks or projects. By inference, higher education students who showed higher levels of perseverance amidst COVID-19 can handle the difficulties regarding teaching and learning, as evident in this pandemic. This means that an individual learner's ability to reflect on and apply adaptive help-seeking behaviours can help them weigh their strengths and weaknesses, change their approach to task completion, seek help when needed, and induce self-encouragement. Amidst the COVID-19 pandemic, this is not different from higher education students. As these students adopt the mindset that not everything in their learning in this pandemic might be successful, it implies they have identified their weaknesses, which can put them in a position to hone their strengths. To mitigate their learning success, these students can change their learning approaches in line with established protocols for curbing the effects of COVID-19 and improving their learning outcomes. It is important to note that emotional control is crucial for every individual. Understanding personal emotions allows one to regulate feelings and respond to situations appropriately. In the era of COVID-19, every human being expe-

rienced a bit of emotional instability because the emergence of the pandemic was unclear to the average individual. Despite such uncertainty regarding the pandemic, many learners moderated their emotions and hoped for better days ahead. Exhibiting emotional tolerance to situations in the COVID-19 period is something many higher education institutions are required by their instincts to do because they cannot control it, and as a civic responsibility, to abide by the strict measures proposed by health professionals to contain the pandemic. The findings indicate that level 300 higher education students were more likely to persevere, demonstrate zeal to reflect and adapt to pieces of advice, exhibit negative feelings, and respond appropriately to emotions in academic situations than level 100 and level 200 students during COVID-19. However, the level 100 higher education students supersede their counterparts in level 200 regarding the issues of academic resilience established in the current study.

5. Conclusion

Mindfulness and resilience are essential internal strategies that are frequently applied in adjusting to immediate life adversities. People who are mindful and resilient are less prone to negative emotional experiences based on what they possess. In part, this ability could be a result of their ability to control and manage their focus. People with mindfulness and resilient traits have the urge to adjust to negative situations they encounter. In this regard, they are able to observe and regulate their emotions and thoughts. With that, their thoughts and emotions are observed and regulated. Based on the findings, students were mindful and resilient because Ghana's higher education system and traditional support systems appeared to be strong even before the outbreak of COVID-19. The fact that members of the Ghanaian community stay and hear from the extended family system, as well as their sense of neighbourliness, keeps students vital and able to overcome obstacles in their academic journey. To complement the effort made by students in this trying period, it was important for the university to move their counselling services from face-to-face to online to assist students with issues. Using this medium, students with poor internet facilities could come physically to sit for their examinations under strong and strict COVID-19 protocols. Regardless of gender and level of education, students were supported based on their level and the kinds of support they needed. For instance, at level 100, freshmen and women were given two hours of face-to-face tuition and one hour online. That is (2:1), whereas continuing students, based on their familiarity with the online tuition, were made to do 1:2. Again, student activities (clubs, organisations, seminars, conferences, etc.) were held as before with strict adherence to COVID-19 protocols. This helped students not fall short of the experiences they usually have during the usual times. The extended stay on campus has given the continuing students an edge over the freshmen. In comparison to freshmen, they may know a lot about the school and how to deal with problems. Freshmen are also making new friends and becoming acquainted with the university system and environment.

6. Implications for Policy and Practice

The COVID-19 pandemic has disrupted many aspects of life, including education. Higher education students in Ghana have had to adjust to online learning, social isolation, and other challenges that have increased their stress levels. Mindfulness has been identified as a potential strategy for promoting academic resilience among these students. Following are some implications for policy and practice:

For Higher Learning Institution Management and Faculty

1) Management should devote time to advocating for and training students on mindfulness and resilience, providing them with strategies for application. Faculty involvement is crucial in realizing the benefits of mindfulness and academic resilience.

2) Faculty should routinely implement immediate but brief mindfulness and resilience activities with students at the beginning of lectures to help reduce negative emotions and enhance the learning experience.

For Educational Psychologists and Counsellors

1) Assign educational psychologists and counsellors to all levels of students in halls and departments to serve as consultants for academic counsellors and hall advisors, especially in dealing with deep-seated psychological issues during the COVID-19 era.

For Institutions

1) Enhance online psychological services to provide easy access to psychologists and counsellors, incorporating applications that support online counselling services.

2) Consider integrating mindfulness practices into the curriculum by offering mindfulness courses or incorporating mindfulness into existing courses. This promotes the development of resilience, stress reduction, and overall well-being among students.

3) Provide resources and training to faculty and staff on mindfulness practices to serve as role models and mentors to students, fostering a culture of mindfulness within the institution.

4) Facilitate the creation of peer support networks among students, providing a supportive environment where they can share experiences and offer emotional support to one another. Additionally, train students to be effective peer supporters.

5) Address existing inequities in access to technology by providing all students with access to technology and internet connectivity.

6) Evaluate the effectiveness of mindfulness interventions on academic resilience among students to identify the most effective approaches and inform future policy and practice decisions.

7) By adopting these strategies, institutions of higher learning in Ghana can promote academic resilience among their students amidst the COVID-19 pandemic. Mindfulness practices can help students develop the skills they need to

cope with stress, remain focused on their studies, and thrive academically.

7. Limitations

The study surveyed only undergraduate students, and the findings cannot reflect all other students in the university. Therefore, caution should be taken when discussing and implying the study findings because generalizability is limited. Again, the study applied non-probability sampling techniques in recruiting respondents; hence, drawbacks in such techniques are inevitable.

Data Availability

The data from which this study was made possible is available and can be given out upon an official request made to the authors.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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