



A Comparative Study of Academic Resilience between Pharmacy Students in Baguio City and Pangasinan During the COVID-19 Pandemic

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Abstract

The COVID-19 pandemic significantly disrupted pharmacy education, prompting institutions to shift to distance learning. This quantitative cross-sectional study examined and compared the level of academic resilience among pharmacy students in Baguio City and Pangasinan during the pandemic. Academic resilience was measured using the Academic Resilience Scale (ARS-30), which was administered online to 130 undergraduate students selected from a population of 563 using purposive and stratified random sampling.

Results revealed that students from both institutions demonstrated high perseverance (Baguio: $M = 4.333$; Pangasinan: $M = 4.475$; $p = 0.136$) and neutral emotional response (Baguio: $M = 2.677$; Pangasinan: $M = 2.783$; $p = 0.541$). A statistically significant difference was observed in reflective and adaptive help-seeking (Baguio: $M = 4.264$; Pangasinan: $M = 4.502$; $p = .029$), with Pangasinan students demonstrating stronger engagement in goal-setting, progress monitoring, and help-seeking behaviors.

The findings indicate that although pharmacy students in both regions were academically resilient during distance learning, contextual and institutional factors may influence adaptive help-seeking behaviors. Pharmacy schools may enhance resilience by strengthening mentoring programs, structured feedback systems, and student support initiatives to prepare for future academic disruptions.

Keywords: *academic resilience, distance learning, pharmacy students, coping strategies, mental well-being*

1. Introduction

Resilience is the ability to adapt effectively to challenging situations and is closely linked to overall well-being and mental health (Mayo Clinic Staff, 2017). In the Philippine context, resilience is often associated with Filipinos' capacity to overcome adversities such as natural disasters and conflicts. Well-being and resilience play a critical role in preventing or reducing the severity of mental health problems and enable individuals, especially young people transitioning into adulthood to approach life with confidence, optimism, and effective coping skills (ReachOut, 2019). These attributes are essential for problem-solving, maintaining interpersonal relationships, and setting realistic goals that enhance daily functioning and productivity (ReachOut, 2019).

The emergence of COVID-19 in December 2019, caused by the SARS-CoV-2 virus and later declared a global pandemic by the World Health Organization, posed serious threats to both physical and mental health (Centers for Disease Control and Prevention (CDC), 2021; WHO, 2020). In response, universities worldwide shifted from face-to-face instruction to distance learning, utilizing online platforms such as Zoom and Google Meet. While this transition allowed continuity of education, it also resulted in increased stress, negatively affecting students' mental health and well-being. However, some students experienced improved well-being by adapting to new routines and activities.

Mental health, defined by the WHO as a state of well-being that enables individuals to cope with stress, work productively, and contribute to their communities, has been significantly challenged during the pandemic (Galderisi et al., 2015). Consequently, educational institutions have been encouraged to develop strategies to support students' mental health and enhance academic resilience, which refers to achieving academic success despite exposure to stressors and adverse conditions that may hinder performance (Wang et al., 1994).



In the context of pharmacy education, gradual adaptations to pandemic-related restrictions included limited face-to-face laboratory classes approved by the Commission on Higher Education (CHED) in the Philippines, subject to safety protocols and individual choice (CHED, 2021). Academic leaders and administrators play a vital role in identifying student concerns and fostering realistic goal setting, self-awareness, and resilience, recognizing that success extends beyond academic performance to include mental well-being and adaptability (Giusti et al., 2021).

Despite growing literature on pandemic-related student resilience, limited studies have conducted comparative analyses across different Philippine regions. Baguio City and Pangasinan differ geographically and socio-culturally, potentially influencing academic support systems, faculty engagement, and help-seeking behaviors. Understanding these differences is essential for designing targeted resilience-building interventions.

Although pandemic restrictions have eased as of 2026, examining resilience during 2020–2022 remains relevant for strengthening post-pandemic academic support structures and preparing institutions for future crises.

This study, therefore, aimed to compare the academic resilience levels of pharmacy students in Baguio City and Pangasinan during the COVID-19 pandemic.

2. Objectives

- 1) To determine the level of academic resilience of pharmacy students based on a) Perseverance, b) Reflection and Adaptive Help-Seeking, c) Emotional response in virtual or distance learning during the COVID-19 pandemic.
- 2) To examine the mental, emotional and social struggles of pharmacy students in virtual or distance learning during the COVID-19 pandemic.
- 3) To identify coping mechanisms of pharmacy students in virtual or distance learning during the COVID-19 pandemic.
- 4) To compare the significant difference in the resiliency level among students from Baguio City and Pangasinan.

3. Materials and Methods

This study employed a quantitative descriptive cross-sectional design. The total population consisted of 563 pharmacy students from selected institutions in Baguio City and Pangasinan. Using Cochran's formula and purposive-stratified random sampling, 130 respondents were proportionally allocated between the two schools. Data were collected through an online survey administered via Google Forms. Incomplete responses were excluded from analysis. Participation was voluntary, and informed consent was secured prior to survey completion.

Academic resilience was measured using the Academic Resilience Scale (ARS-30), a validated 30-item instrument assessing cognitive, affective, and behavioral responses to academic adversity. Responses were recorded using a 5-point Likert scale.

Descriptive statistics (weighted arithmetic mean) were used to determine resilience levels. Independent samples t-tests were conducted to compare groups. Assumptions of normality and homogeneity of variance were assessed before inferential testing. Statistical significance was set at $p < 0.05$. Ethical standards on confidentiality and data protection were strictly observed.

4. Results and Discussion

Research Question 1. What is the level of academic resilience among pharmacy students based on the following?



a. Perseverance

Table 1 Perseverance

	Baguio City		Pangasinan	
	Mean	Descriptive Rating*	Mean	Descriptive Rating*
1. I would work harder	4.31	Likely	4.61	Very Likely
2. I would keep trying	4.51	Very Likely	4.69	Very Likely
3. I would not easily give up	4.40	Likely	4.62	Very Likely
4. I would try to think of new solutions	4.40	Likely	4.56	Very Likely
5. I would change my career plans	3.09	Neutral	3.45	Neutral
6. I would use my situation to motivate myself	4.51	Very Likely	4.71	Very Likely
7. I would not change my long- term goals and ambitions	4.26	Likely	4.46	Likely
8. I would see the situation as a challenge	4.49	Likely	4.52	Very Likely
9. I would look forward to showing that I can improve my grades	4.57	Very Likely	4.72	Very Likely
10. I would see the situation as temporary	4.31	Likely	4.38	Likely
11. I would do my best to stop thinking negative thoughts	4.31	Likely	4.41	Likely
12. I will not blame the tutor/teacher	4.26	Likely	4.24	Likely
13. I would accept the tutor/teachers' feedback	4.60	Very Likely	4.54	Very Likely
14. I would use the feedback to improve my work	4.63	Very Likely	4.74	Very Likely
Overall Mean	4.333	Likely	4.475	Likely

*Descriptive Rating

1.00 – 1.49: Very Unlikely 1.50 – 2.49: Unlikely

2.50 – 3.49: Neutral

3.50 – 4.49: Likely

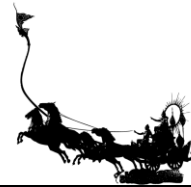
4.50 – 5.00: Very Likely

Pharmacy students from both Baguio City and Pangasinan demonstrated high levels of perseverance, particularly in using and accepting feedback, striving to improve grades, staying motivated, and continuing to try despite difficulties. Students from Pangasinan also showed strong tendencies to work harder, find new solutions, and view challenges positively. However, students from both groups were neutral about changing their career plans.

b. Reflective and Adaptive Help-Seeking

Table 2 Reflective and Adaptive Help-Seeking

	Baguio City		Pangasinan	
	Mean	Descriptive Rating*	Mean	Descriptive Rating*
1. I would try to think more about my strengths and weaknesses to help me work harder	4.57	Very Likely	4.65	Very Likely
2. I would give myself encouragement	4.46	Likely	4.64	Very Likely
3. I would seek encouragement from my family and friends	3.97	Likely	4.34	Likely
4. I would try different ways to study	4.31	Likely	4.51	Very Likely
5. I would set my goals for achievement	4.57	Very Likely	4.68	Very Likely
6. I would seek help from my tutors/teachers	3.89	Likely	4.14	Likely

**Table 2 Cont.**

	Baguio City		Pangasinan	
	Mean	Descriptive Rating*	Mean	Descriptive Rating*
7. I would start to monitor and evaluate my achievements and effort	4.17	Likely	4.53	Very Likely
8. I would start to self-impose rewards and punishments depending on my performance	4.00	Likely	4.34	Likely
9. I would use my past success to help motivate myself	4.43	Likely	4.61	Very Likely
Overall Mean	4.264	Likely	4.502	Very Likely

*Descriptive Rating

1.00 – 1.49: Very Unlikely 1.50 – 2.49: Unlikely

2.50 – 3.49: Neutral

3.50 – 4.49: Likely

4.50 – 5.00: Very Likely

Pharmacy students from both Baguio City and Pangasinan exhibited high reflective and adaptive help-seeking. It highlights the importance of environmental and institutional factors in resiliency. Adaptive help-seeking reflects metacognitive aware, and openness to external support, which openness to external support are components in healthcare training.

c. Emotional Response

Table 3 Emotional Response

	Baguio City		Pangasinan	
	Mean	Descriptive Rating*	Mean	Descriptive Rating*
1. I would feel everything was ruined and was going wrong	2.63	Neutral	2.65	Neutral
2. I would begin to think my chances of success at university were poor	2.34	Unlikely	2.66	Neutral
3. I would probably get depressed	2.43	Unlikely	2.51	Neutral
4. I would be very disappointed	2.60	Neutral	2.86	Neutral
5. I would begin to think my chances of getting the job I want were poor	2.40	Unlikely	2.64	Neutral
6. I would probably get annoyed	2.80	Neutral	2.82	Neutral
7. I would stop myself from panicking	3.54	Likely	3.34	Likely
Overall Mean	2.677	Neutral	2.783	Neutral

*Descriptive Rating

1.00 – 1.49: Very Unlikely 1.50 – 2.49: Unlikely

2.50 – 3.49: Neutral

3.50 – 4.49: Likely

4.50 – 5.00: Very Likely

Pharmacy students from both Baguio City and Pangasinan showed a neutral emotional response. Resilience extends beyond emotional stability, which includes behavioral strategies for long-term academic success (Accessible mentorship, feedback systems, and faculty communication).

Research Question 2. Is there a significant difference in the level of academic resilience between students from the two schools?

The results indicate that there is no significant difference in the resiliency levels of pharmacy students from Baguio City and Pangasinan in terms of perseverance ($p = 0.136$) and emotional response ($p = 0.541$), suggesting that students from both schools exhibit comparable resilience in these dimensions. However, a significant difference was observed in reflective and adaptive help-seeking ($p = 0.029$), with students from Pangasinan demonstrating higher resilience in this aspect compared to those from Baguio City.

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**Table 4** Comparison on Resiliency Level between Baguio City and Pangasinan*

	School	Mean	t-value	p-value	Interpretation
Perseverance	Baguio City	4.333	-1.513	.136	Not Significant
	Pangasinan	4.475			
Reflective and Adaptive Help-Seeking	Baguio City	4.264	-2.207	.029	Significant
	Pangasinan	4.502			
Emotional Response	Baguio City	2.677	-0.615	.541	Not Significant
	Pangasinan	2.783			

Pharmacy students from both Baguio City and Pangasinan showed high perseverance and neutral emotional responses, indicating strong persistence and balanced emotional coping. A key difference emerged in reflective and adaptive help-seeking, with students from Pangasinan demonstrating higher resilience through goal-setting, self-motivation, progress monitoring, and flexible study strategies compared to students from Baguio City.

However, limitations of the study include bias from self-reported data, findings are limited to two institutions only, and coping mechanisms were not deeply explored using qualitative methods. Future research may incorporate a mixed-methods design to compare post-pandemic results.

5. Conclusion

Pharmacy students from Baguio City and Pangasinan demonstrated high academic resilience despite the challenges of the COVID-19 pandemic and flexible learning. Statistical analysis showed no significant difference in overall resilience between the two schools, indicating similar capacities to adapt to academic difficulties. Students reported strong resilience, particularly in perseverance and mindset with adaptive help-seeking, suggesting effective adjustment to change and recovery from adversity.

Although both groups showed high resilience, students from Pangasinan exhibited slightly higher levels ($p = 0.029$), consistent with previous findings that resilience is essential for university students during the pandemic and is strengthened by support from family, peers, instructors, and institutions (Ang et al., 2022).

Pharmacy schools are encouraged to strengthen mentoring programs, structured feedback systems, and resilience-building initiatives to enhance students' capacity to navigate future academic disruptions.

Despite limitations in exploring specific struggles and coping strategies, the findings confirm that pharmacy students from both schools remained academically resilient during the pandemic (Ang et al., 2022).

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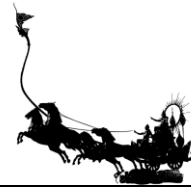
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7. References

Altwaijry, N., Ibrahim, A., Binsuwaidan, R., Alnajjar, L. I., Alsouk, B. A., & Almutairi, R. (2021). Distance education during COVID-19 pandemic: A college of pharmacy experience. *Risk Management and Healthcare Policy*, 2099-2110. <https://doi.org/10.2147/RMHP.S308998>

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- Ang, W. H. D., Shorey, S., Lopez, V., Chew, H. S. J., & Lau, Y. (2022). Generation Z undergraduate students' resilience during the COVID-19 pandemic: a qualitative study. *Current Psychology, 41*(11), 8132-8146. <https://doi.org/10.1007/s12144-021-01830-4>
- Babbie, E., Halley, F., & Zaino, J. (2010). *Adventures in social research: Data analysis using IBM SPSS statistics*. SAGE Publications.
- Barrot, J. S., Llenares, I. I., & del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies, 26*, 7321-7338. <https://doi.org/10.1007/s10639-021-10589-x>
- Brammer, M. S. (2020). Student resilience and COVID-19: A review of the literature. *Associative Journal of Health Sciences, 1*(3), 1-10.
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: Complex or simple? *Research Case Methods, 1*(1), 1-7. <https://doi.org/10.4135/9781526465792>
- Cassidy, S. (2016). The Academic Resilience Scale (ARS-30): A new multidimensional construct measure. *Frontiers in Psychology, 7*, 1787. <https://doi.org/10.3389/fpsyg.2016.01787>
- Centers for Disease Control and Prevention. (2021). *CDC COVID-19 overview*. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/index.html>
- Cernasev, A., Desai, M., Jonkman, L. J., Connor, S. E., Ware, N., Sekar, M. C., & Schommer, J. C. (2021). Student pharmacists during the pandemic: Development of a COVID-19 knowledge, attitudes, and practices (COVKAP) survey. *Pharmacy, 9*(4), 159. <https://doi.org/10.3390/pharmacy9040159>
- Commission on Higher Education (CHED). (2021). *CHED policies on limited face-to-face classes during COVID-19*. Commission on Higher Education, Republic of the Philippines.
- Fuentes, A. V., Jacobs, R. J., Ip, E., Owens, R. E., & Caballero, J. (2021). Coping, resilience, and emotional well-being in pharmacy students during the COVID-19 pandemic. *Mental Health Clinician, 11*(5), 274-278. <https://doi.org/10.9740/mhc.2021.09.274>
- Galderisi, S., Heinz, A., Kastrup, M., Beezhold, J., & Sartorius, N. (2015). Toward a new definition of mental health. *World psychiatry, 14*(2), 231-233. <https://doi.org/10.1002/wps.20231>
- Giusti, L., Salza, A., Mammarella, S., Bianco, D., Ussorio, D., Casacchia, M., & Roncone, R. (2020). # Everything will be fine. Duration of home confinement and "all-or-nothing" cognitive thinking style as predictors of traumatic distress in young university students on a digital platform during the COVID-19 Italian lockdown. *Frontiers in Psychiatry, 11*, Article 574812. <https://doi.org/10.3389/fpsyg.2020.574812>
- Kang, B. (2021). How the COVID-19 pandemic is reshaping the education service. In J. Lee & S. H. Han (Eds.), *The future of service post-COVID-19 pandemic* (Vol. 1, pp. 15-36). Springer. https://doi.org/10.1007/978-981-33-4126-5_2
- Labrague, L. J. (2021). Psychological resilience, coping behaviours and social support among health care workers during the COVID-19 pandemic: A systematic review of quantitative studies. *Journal of Nursing Management, 29*(7), 1893-1905. <https://doi.org/10.1111/jonm.13336>
- Levkovich, I., & Shinan-Altman, S. (2021). Impact of the COVID-19 pandemic on stress and emotional reactions in Israel: A mixed-methods study. *International Health, 13*(4), 358-366. <https://doi.org/10.1093/inthealth/ihaa081>
- Martin, A. J., & Marsh, H. W. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools, 43*(3), 267-281. <https://doi.org/10.1002/pits.20149>
- Mayo Clinic Staff. (n.d.). *Resilience: Build skills to endure hardship*. Mayo Clinic. Retrieved from <https://www.mayoclinic.org/tests-procedures/resilience-training/in-depth/resilience/art-20046311> (Original work published 2017)



- Mosanya, M. (2020). Buffering academic stress during the COVID-19 pandemic related social isolation: Grit and growth mindset as protective factors against the impact of loneliness. *International Journal of Applied Positive Psychology*. <https://doi.org/10.1007/s41042-020-00043-7>
- O'Driscoll, M., Byrne, S., Byrne, H., Lambert, S., & Sahm, L. J. (2019). An online mindfulness-based intervention for undergraduate pharmacy students: Results of a mixed-methods feasibility study. *Currents in Pharmacy Teaching and Learning*, *11*(9), 858–875. <https://doi.org/10.1016/j.cptl.2019.05.013>
- Panzeri, A., Bertamini, M., Butter, S., Levita, L., Gibson-Miller, J., Vidotto, G., Bentall, R. P., & Bennett, K. M. (2021). Factors impacting resilience as a result of exposure to COVID-19: The ecological resilience model. *PLOS ONE*, *16*(8), Article e0256041. <https://doi.org/10.1371/journal.pone.0256041>
- ReachOut. (2019). *Wellbeing and resilience*. ReachOut Schools. Retrieved from <https://schools.au.reachout.com/student-wellbeing/wellbeing-and-resilience>
- Schlesselman, L. S., Cain, J., & DiVall, M. (2020). Improving and restoring the well-being and resilience of pharmacy students during a pandemic. *American Journal of Pharmaceutical Education*, *84*(6), 8144. <https://doi.org/10.5688/ajpe8144>
- Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, *293*, 113429. <https://doi.org/10.1016/j.psychres.2020.113429>
- Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet Research*, *22*(9), e21279. <https://doi.org/10.2196/21279>
- Thalib, S. B., Syam, A., & Husain, S. R. (2018). The validity and reliability of the Academic Resilience Scale (ARS-30) for Indonesian university students. *Journal of Educational Science and Technology*, *4*(1), 1–9.
- Thomas, L. (2020). *Sampling methods*. In *Research methodology and statistical analysis* (pp. 45–60). Springer.
- Wang, M. C., Haertel, G. D., & Walberg, H. J. (1994). *Educational resilience in inner-city America: Challenges and prospects*. In *Urban education and the challenge of diversity* (pp. 61–85). SUNY Press.
- World Health Organization. (2020). *WHO timeline COVID-19*. <https://www.who.int/news/item/27-04-2020-who-timeline---covid-19>
- World Health Organization. (n.d.). *Mental health: Strengthening our response*. <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>