

The Moderating Role of Resilience in the Relationship Between Stress and Quality of Life: A Pathway to Well-Being

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ABSTRACT

This quantitative research explored the role of resilience in moderating the relationship between stress and Quality of Life (QoL) among Camarines Norte State College (CNSC) college students, particularly those students with disability, LGBTQIA members, working students, and economically marginalized students as subgroups. The objectives of the study included (1) To determine the level of perceived stress, QoL and resilience of the subgroups; (2) To determine the moderating influence of resilience in the relationship between perceived stress and quality of life among the respondents; (3) To determine significant difference in the moderating impact of resilience in the relationship between perceived stress and quality of life among the subgroups of students. Random stratified sampling was used to determine the subgroups. The findings revealed that all four student subgroups fall within the moderate perceived stress category. A moderation analysis was then conducted to examine whether resilience moderates the relationship between perceived stress and QoL. Results indicated a significant interaction between perceived stress and resilience ($\beta = 0.06$), demonstrating that resilience buffers the adverse effect of stress on quality of life. Specifically, individuals with higher resilience experienced less reduction in QoL as stress increased, compared to individuals with lower resilience. These findings support the role of resilience as a protective factor.

Keywords: mental health, well-being, resilience, stress, quality of life, LGBTQIA, college students, Camarines Norte State College

INTRODUCTION

American Psychological Association (APA, 2025) defines resilience as the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands. Resilience theory asserts that the true essence of adversity lies not in its nature, but in how it is confronted. In moments of hardship, misfortune, or frustration, resilience is the force that empowers one to recover, endure, and ultimately rise above. It is not merely about surviving, but about flourishing in the face of adversity, transforming what was once a setback into an opportunity for growth. Given these definitions of resilience, one might question its significance in effectively managing stress and improving the overall quality of life.

Stress is the response triggered when one perceives pressure or a threat as defined by Mind (2025). It arises in situations where control feels out of reach, and the challenge at hand seems beyond one's ability to manage. The Harvard Health Publishing (2024) of the Harvard Medical School stated that stress can manifest as recurring everyday health issues including headaches, stomachaches, chest pains, nausea, and indigestion. People under stress can also experience emotional problems such as irritability, difficulty concentrating, and withdrawal from friends and family.

Stress is known to have a significant impact on quality of life (QoL). QoL is a concept that seeks to capture an individual's or population's well-being, encompassing both positive and negative aspects of their existence at a particular moment, as noted by Teoli and Bhardwaj (2023). In contrast, the World Health Organization (WHO) defines QoL as an individual's perception of their position in life, shaped by the cultural and value systems they live within, as well as their goals, expectations, standards, and concerns.

Numerous studies have already established the relationship between stress and quality of life (QoL), particularly among college students. According to Karimah et al. (2025), the peak of vulnerability to behavioral and mental health disorders occurs during the college years, making this period crucial for personal development. College students tend to experience a lower quality of life, especially in terms of mental health, compared to the general population. Ramón-Arbués et al. (2022) further highlighted that various sociodemographic, academic, and behavioral factors are linked to university students' QoL, emphasizing the need for initiatives that focus on identifying and overcoming barriers that hinder the improvement of students' well-being. These findings underline the importance of addressing the unique challenges faced by college students to enhance their overall quality of life.

So, how might resilience influence the stress-QoL relationship and help in improving the overall well-being of individuals? Could resilience play a critical role in this dynamic? This study examines the moderating role of resilience in the stress-QoL relationship, focusing on CNSC college students, particularly those in vulnerable groups such as students with disability, LGBTQIA members, and economically marginalized students. These groups often face unique and compounded stressors that can significantly affect their quality of life, making the role of resilience even more essential in buffering the impact of stress. By targeting these vulnerable populations, the study aims to explore how resilience can act as a protective factor, helping students navigate challenges and maintain their well-being despite the pressures they encounter.

Research Objectives

This study emphasized the moderating role of resilience in the relationship between stress and quality of life, potentially guiding the development of interventions to enhance well-being. Specifically, it sought:

1. To determine the level of perceived stress, quality of life and resilience of the respondents
2. To determine the moderating influence of resilience in the relationship between perceived stress and quality of life among the respondents
3. To determine significant difference in the moderating impact of resilience in the relationship between perceived stress and quality of life among the respondents' cohorts in terms of:
 - a. Students with disability
 - b. LGBTQIA members
 - c. Economically marginalized
 - d. Working students

METHODOLOGY

Research Design

Quantitative research design was employed to conduct this study because it allows for objective measurement and statistical analysis of the relationships between stress, resilience, and QoL. This approach provides empirical evidence to support the moderating role of resilience in the stress-QoL relationship. It also allows for the identification of patterns and trends in stress, resilience, and quality of life across different demographic groups, such as students with disability, LGBTQIA members, working students, and economically marginalized individuals.

Respondents and Locale

By implementing stratified sampling, the study captured specific subgroups, including students with disability, LGBTQIA members, economically marginalized, and working students. These groups were chosen because they often experience unique stressors, such as discrimination, financial hardship, and accessibility challenges, which can significantly impact their QoL.

This study was conducted across CNSC campuses, including the main campus, CFAST, COTT, and CANR, to ensure a diverse and representative sample of students.

Table 1. The stratified profiling of the respondents

Subgroup	Frequency	Percentage
Students with Disability (SWD)	13	6%
LGBTQIA members	64	29%
Economically marginalized students (EMS)	103	48%
Working Students (WS)	36	17%
Total	216	100%

There were a total of 708 students who responded to the study's survey. From said sample population, the respondents were stratified into four subgroups: Students with Disability (SWD), LGBTQIA members, Economically Marginalized Students (EMS), and Working Students (WS). This stratification ensured that diverse student populations were represented, allowing the study to capture insights from minority and marginalized groups while maintaining a balanced view of the overall student body.

The stratified profile illustrated the diversity of the respondents and emphasizes the importance of targeted interventions for each subgroup. By including a wide range of student experiences, the study provides a comprehensive understanding of the academic, social, and financial challenges faced by students. This approach ensured that policies and support programs can be designed to address the specific needs of minority, marginalized, and working students effectively.

Research Instruments

The WHOQOL-BREF was used to assess the respondents' quality of life, while the Perceived Stress Scale (PSS) measured their stress levels. Meanwhile, the CD-RISC was utilized to evaluate their resilience levels.

The World Health Organization Quality of Life – BREF (WHOQOL-BREF) is a self-report questionnaire which assesses four domains of quality of life (QOL): physical health, psychological health, social relationships, and environment. The WHOQOL(Bref) is grouped into four domains of QOL and two items that measure overall QOL and general health: Physical health (raw score range: 7-35); Psychological health (raw score range: 6-30); Social relationships (raw score range: 3- 15); Environment (raw score range: 8-40).

The Perceived Stress Scale (PSS) stands as the classic instrument for assessing stress, offering an unparalleled understanding of how various situations shape human emotions and perceptions of stress. Since its development in 1983, it has remained the definitive tool, universally recognized for its ability to measure and interpret the complexities of stress across diverse populations. Its enduring relevance cements its status as an indispensable resource in psychological research and well-being assessments.

The Connor-Davidson Resilience Scale (CD-RISC) is a test that measures resilience or how well one is equipped to bounce back after stressful events, tragedy, or trauma. It measures several components of resilience: 1) the ability to adapt to change; 2) the ability to deal with what comes along; 3) the ability to cope with stress; 4) the ability to stay focused and think clearly; 5) the ability to not get discouraged in the face of failure; 6) the ability to handle unpleasant feelings such as anger, pain or sadness.

Data collection and analysis

The perceived stress, QoL, and resilience level will be interpreted according to the scoring provided in the assessment tools. Then, moderation analysis will be conducted. A moderation analysis examines whether the relationship between two variables (a predictor and an outcome) changes depending on the level of a third variable (the moderator). Moderation analysis is typically conducted using multiple regression.

RESULTS AND DISCUSSION

This section presents the levels of the respondents' stress and QoL, the significant relationship between stress and QoL and the significant differences between the the subgroups.

Objective 1: The level of perceived stress, quality of life and resilience of the respondents. According to Lazarus and Folkman's transactional theory of stress (1984), perceived stress becomes higher when individuals judge a situation as demanding and believe their coping resources are insufficient to manage it. Students with disabilities (SWD), LGBTQIA+ individuals, economically marginalized students (EMS), and working students (WS) are particularly vulnerable to stress due to the societal, academic, and financial pressures they frequently encounter. These ongoing challenges can overwhelm their available coping resources, making it more difficult for them to manage daily demands. As a result, their capacity to cope becomes depleted, leading to higher levels of perceived stress, as manifested in Table 2.

Table 2. The level of perceived stress of the respondents

	SWD	LGBTQIA	EMS	WS
1. In the last month, how often have you been upset because of something that happened unexpectedly?	2	3	3	2
2. In the last month, how often have you felt that you were unable to control the important things in your life?	2	2	3	2
3. In the last month, how often have you felt nervous and stressed?	3	3	3	2
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	2	2	2	2
5. In the last month, how often have you felt that things were going your way?	2	2	2	2
6. In the last month, how often have you				
found that you could not cope with all the things that you had to do?	2	2	2	2
7. In the last month, how often have you been able to control irritations in your life?	2	2	2	2
8. In the last month, how often have you felt that you were on top of things?	2	2	2	2
9. In the last month, how often have you been angered because of things that happened that were outside of your control?	2	2	2	2
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	2	2	2	2
TOTAL	21	22	24	23

Legend: 0-13 = Low Perceived Stress; 14-26 = Moderate Perceived Stress; 27-40 = High Perceived Stress

The findings indicate that all four student groups fall within the moderate perceived stress category, suggesting that while they encounter notable stressors, they retain a functional level of coping ability. These moderate stress levels may stem from a combination of role demands, environmental pressures, and psychosocial challenges unique to each group. Overall, the results underscore the need for sustained institutional support and targeted interventions to help these student populations maintain healthy stress management and academic well-being.

The following literature consistently demonstrates that stress has significant consequences for vulnerable student groups, which aligns with the results of the current study. Warsi (2025) found that academic stress negatively impacts the academic performance, social interactions, and emotional well-being of students with learning disabilities, reflecting the present study's finding that higher stress is associated with lower quality of life. Similarly, Shaikh et al. (2024) emphasize that LGBTQ individuals experience unique stressors stemming from discrimination and marginalization, leading to heightened anxiety, depression, and suicidality. Financial stress has also been shown to create social and emotional challenges for economically marginalized students, such as isolation and embarrassment when interacting with wealthier peers (Moore et al., 2021). This corresponds with the current study's results, which revealed that financially constrained and working students reported higher stress and reduced quality of life. Overall, these findings underscore how structural, academic, and social stressors disproportionately affect vulnerable student populations,

reinforcing the study's conclusion that stress significantly undermines quality of life, particularly when resilience is low.

To explain how stress impacts the quality of life of the identified subgroups, this study is anchored on Maslow's Hierarchy of Needs (1943). Maslow's theory provides a useful lens for understanding how unmet basic and psychological needs can diminish well-being, particularly among students with disabilities, LGBTQIA+ individuals, economically marginalized students, and working students. When essential needs such as safety, belongingness, or esteem are compromised—whether through discrimination, financial hardship, or academic pressure—these students may find it difficult to progress toward higher-level needs like self-actualization. Consequently, disruptions at any level of the hierarchy can lead to heightened stress and a reduced overall quality of life.

As shown in Table 3, students with disabilities (SWD), LGBTQIA+ individuals, economically marginalized students (EMS), and working students (WS) all fall within the high quality of life (QOL) category, suggesting that despite their unique challenges, these groups perceive their overall well-being positively. In contrast, economically marginalized students report only a moderate QOL, reflecting the likely impact of financial constraints on various dimensions of their daily functioning and satisfaction.

Across all groups, items related to health, energy, concentration, and emotional well-being tend to show similar moderate ratings, indicating shared concerns regardless of background. Notably, areas such as personal relationships, living conditions, and support from friends consistently receive higher ratings, suggesting strong social support systems among respondents. Overall, the data highlight that while most student subgroups experience relatively high life quality, economic disadvantage remains a significant factor lowering perceived well-being.

Table 3. The level of Quality of Life (QoL) of the respondents

		SWD	LGBTQIA+	EMS	WS
1.	How would you rate your quality of life? (overall QOL)	4	4	3	4
2.	How well are you able to get around? (overall health satisfaction)	4	4	3	4
3.	How satisfied are you with your health? (physical domain)	3	3	3	3
4.	How satisfied are you with your sleep? (physical domain)	3	3	3	3
5.	How satisfied are you with your ability to perform your daily living activities? (physical domain)	3	3	3	4
6.	How satisfied are you with your capacity for work? (physical domain)	3	3	3	3
7.	How satisfied are you with yourself? (psychological domain)	3	3	3	3
8.	How satisfied are you with your personal relationships? (social relationships domain)	4	4	4	4
9.	How satisfied are you with your sex life? (social relationships domain)	3	3	3	3
10.	How satisfied are you with the support you get from your friends? (social relationships domain)	4	4	4	4
11.	How satisfied are you with the conditions of your living place? (environment domain)	4	4	4	4
12.	How satisfied are you with your access to health services? (environment domain)	3	3	3	4
13.	How satisfied are you with your transport? (environment domain)	3	3	3	3
14.	To what extent do you feel that (physical) pain prevents you from doing what you need (physical domain)	3	3	3	3

15.	How much do you need any medical treatment to function in your daily life? (physical domain)	3	3	3	3
16.	How much do you enjoy life? (psychological domain)	3	3	3	3
17.	To what extent do you feel your life to be meaningful? (psychological domain)	3	3	3	3
18.	How well are you able to concentrate? (psychological domain)	3	3	3	3
19.	How safe do you feel in your daily life? (environment domain)	4	3	3	3
20.	How healthy is your physical environment? (environment domain)	3	3	3	3
21.	Do you have enough energy for everyday life? (physical domain)	3	3	3	3
22.	Are you able to accept your bodily appearance? (psychological domain)	3	3	3	3
23.	Have you enough money to meet your needs? (environment domain)	3	3	3	3
24.	How available to you is the information that you need in your day-to-day life? (environment domain)	3	4	3	3
25.	To what extent do you have the opportunity for leisure activities? (environment domain)	3	3	3	3
26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression? (psychological domain)	3	3	3	3
	TOTAL	86	86	74	85

Legend: 75–100 = high QOL; 50–74 =moderate QOL; <50 = low QOL

Hogan (2024) reported that LGBTQ+ students with disabilities experience higher levels of bullying, harassment, and mental health challenges, which negatively affect both their school experiences and post-school outcomes. Similarly, Madhesh (2023) found that university students generally report low Quality of Life (QoL), reflecting ongoing challenges in higher education. The current study extends these findings by showing that moderate stress among selected vulnerable students significantly influences their QoL. These results underscore the compounded impact of stress and marginalization on students' well-being and the need for targeted support interventions.

Table 4. The level of resilience of the respondents

		SWD	LGBTQIA+	EMS	WS
1.	I am able to adapt when changes occur.	2	3	3	3
2.	I can deal with whatever comes my way.	2	3	3	3
3.	I try to see the humorous side of things when I am faced with problems.	3	3	3	3
4.	Having to cope with stress can make me stronger.	2	3	3	3
5.	I tend to bounce back after illness, injury or other hardships.	3	3	3	3
6.	I believe I can achieve my goals, even if there are obstacles.	2	3	3	3
7.	Under pressure, I stay focused and think clearly.	2	3	3	2
8.	I am not easily discouraged by failure.	3	3	3	2
9.	I think of myself as a strong person				
	when dealing with life's challenges and difficulties.	2	3	3	3

10.	I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	2	3	3	3
	TOTAL	24	28	27	26

Legend: 0–20 = Low resilience; 21–30 = Moderate resilience; 31–40 = High resilience

Table 4 presents the level of resilience of the subgroups students with disabilities (SWD), LGBTQIA+ individuals, economically marginalized students (EMS), and working students (WS). In terms of resilience, Seligman (2000s) posited that resilient individuals perceive stress as a challenge rather than a threat, which reduces its negative impact on their well-being. This suggests that individuals with greater resilience are more capable of handling stress and maintaining their overall well-being. By studying this relationship, it can be better understood how resilience fosters long-term well-being and psychological growth.

Consistent with existing literature, Marcia et al. (2020) and Bottolfs (2020) highlight that resilience positively influences health-related quality of life (HRQoL), with lower resilience linked to poorer general health and pain outcomes. Mahiri et al. (2019) emphasize the importance of identifying factors affecting HRQoL to develop effective interventions for adolescents. In the current study, perceived stress showed a significant negative association with quality of life, while resilience alone did not directly predict QoL. However, resilience moderated the stress–QoL relationship, buffering the harmful effects of stress and supporting overall well-being.

These prior findings align with the results of the present study, which also found that resilience significantly moderates the relationship between perceived stress and quality of life. Specifically, the current study supports the notion that individuals with higher resilience experience a weaker negative impact of stress on their well-being, reinforcing existing evidence that resilience plays a crucial protective role across diverse populations.

Objective 2: The moderating influence of resilience in the relationship between perceived stress and quality of life among the respondents. To examine how resilience influences the relationship between stress and quality of life among students with disabilities, LGBTQIA+ students, economically marginalized students, and working students, individuals within each group who exhibited the highest and lowest resilience levels were identified. A moderation analysis was subsequently conducted to determine the extent to which resilience moderates the association between stress and quality of life. This analytical approach allowed for a clearer understanding of the causal pathways linking these variables.

Table 5. Hierarchical Regression Examining Resilience as a Moderator Between Perceived Stress and Quality of Life

Predictor	B	SE	t	p
Intercept	110.57	15.87	6.97	< .001
Perceived Stress (X)	−2.03	0.64	−3.14	.002
Resilience (M)	−0.72	0.50	−1.45	.149
Stress × Resilience (X×M)	+0.064	0.021	3.11	.002

The findings based from the moderation analysis highlight the important role of resilience in shaping how perceived stress influences quality of life. Specifically, the positive and significant interaction term indicates that as resilience increases, the negative impact of stress on quality of life becomes weaker. Individuals with low resilience experience greater declines in quality of life when stress levels rise, whereas those with high resilience maintain relatively better well-being despite experiencing stress. These results underscore resilience as a protective factor that can buffer the detrimental effects of stress, supporting theoretical models that frame resilience as a psychological resource. Overall, the moderation findings emphasize the value of strengthening resilience—particularly in vulnerable groups—to help mitigate the negative effects of stress on overall well-being.

Previous studies highlight the complex interplay between resilience, stress, and well-being, showing that higher resilience and lower stress are linked to better quality of life (Bhatnagar, 2021; Shuang-Li & Hasson, 2020;

Ahmed et al., 2022). These findings emphasize resilience as a key psychological resource that helps individuals cope with adversity and maintain well-being. The current study builds on this evidence, demonstrating that resilience moderates the relationship between perceived stress and quality of life, buffering the negative effects of stress on vulnerable students. Together, the literature and current results underscore the importance of fostering resilience to protect and enhance overall well-being.

Objective 3. The significant difference in the moderating impact of resilience in the relationship between perceived stress and quality of life among the respondents' subgroups. To determine these differences, Multiple Analysis of Variance (MANOVA) for stress, QoL, and resilience was conducted. A MANOVA test checks whether these groups differ overall when looked upon all three outcomes together at the same time as shown in Table 7.

The MANOVA revealed a statistically significant multivariate effect of group membership (LGBTQIA, students with disability, economically marginalized students, and working students) on the combined dependent variables: stress, quality of life, and resilience. Converging evidence from Pillai's Trace, Hotelling–Lawley Trace, and Roy's Largest Root further supports the conclusion that the groups differ significantly across the three psychological outcomes.

Table 6. Multivariate Analysis of Variance (MANOVA) for stress, QoL, and resilience between groups

Multivariate Test	Value	F	df (Hyp.)	df (Error)	p
Wilks' Lambda	0.208	35.54	9	667.04	< .001
Pillai's Trace	0.893	26.91	9	702	< .001
Hotelling–Lawley Trace	3.064	45.97	9	632	< .001
Roy's Largest Root	2.339	182.10	3	234	< .001

These results suggest that the subgroups of students—such as students with disabilities, LGBTQIA+ students, economically marginalized students, and working students—differed significantly on the combination of outcomes measured in the study, including stress levels and quality of life. The highly significant findings across all tests confirm that the observed differences are robust and unlikely due to chance. The findings also underscore the need to strengthen resilience and coping strategies, which can buffer the negative effects of stress and enhance QoL.

CONCLUSION AND RECOMMENDATIONS

The findings of this study underscore that stress is a pervasive experience among college students, with particular intensity among vulnerable groups such as students with disabilities, LGBTQIA+ students, economically marginalized students, and working students. These subgroups encounter unique challenges that exacerbate stress, including financial constraints, social and societal pressures, health-related limitations, and the demands of balancing work and academic responsibilities. The stratified profile of respondents revealed that economically marginalized students constituted nearly half of the sample, highlighting the significant impact of financial stressors on students' daily lives. Similarly, the notable representation of LGBTQIA+ students and working students underscores the diversity of stress-inducing factors within the student population, pointing to the need for tailored support mechanisms.

While stress is an inherent aspect of the human experience and, to some extent, an inevitable consequence of academic life, it has a demonstrable impact on students' quality of life (QoL). Elevated stress levels were found to compromise both emotional and psychological well-being, potentially affecting academic performance, social relationships, and overall life satisfaction. However, the study also highlights the critical role of resilience and access to supportive resources in mitigating the negative consequences of stress. Students who are able to draw on internal coping strategies, social support networks, and institutional resources are better positioned to navigate challenges and maintain a higher level of QoL despite external pressures.

Based on these findings, several recommendations are proposed to support students and enhance their QoL. Guidance counselors, Psychologists, and other mental health professionals should develop targeted support

programs and mentorship initiatives for vulnerable students, conduct stress management workshops, and establish early identification and referral systems for students experiencing high stress levels. Providing resilience-building interventions, group therapy sessions tailored to specific stressors, and holistic mental health support that addresses academic, financial, social, and health-related challenges, are encouraged.

Universities should implement inclusive support services, expand financial aid and scholarship programs for economically marginalized students, offer flexible academic policies for working students, and promote awareness campaigns on mental health and resilience.

At the policy level, higher education authorities and policymakers should prioritize mental health programs in curricula, allocate resources for student support services, encourage ongoing research on stress and QoL, and foster collaboration between universities, health professionals, and community organizations to ensure comprehensive support for all students.

By adopting these measures, educational institutions can help alleviate stress, enhance resilience, and improve the overall quality of life for their students, particularly those in vulnerable subgroups.

Ethical Consideration

The researchers ensured that all participants provided voluntary and informed consent prior to their involvement in the study. Each participant received detailed information regarding the study's objectives, procedures, possible risks, and benefits, and were informed of their right to withdraw from the study at any point without facing consequences. Additionally, strict measures were implemented to maintain the confidentiality of participant information. Data collected were either anonymized or de-identified to safeguard the privacy of participants. Confidentiality was maintained throughout all stages of the research, including data storage, analysis, and dissemination.

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Conflict of Interest

The author(s) declare no conflict of interest related to the publication of this research. No financial, personal, or professional relationships have influenced the study's design, conduct, analysis, or reporting. All affiliations and funding sources have been properly disclosed.

Data Availability

The data supporting this study are available upon request. However, certain information will be anonymized to ensure the confidentiality and security of the respondents.

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