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Stress, meaning-making and academic engagement under extended school hours

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ABSTRACT

Extended school hours and a high academic workload have been causes of distress affecting students' well-being, which subsequently contribute to fatigue and reduced engagement. Guided by Park's Meaning-Making Model, this study examined the relationships among extended school hours, stress, academic engagement, and meaning in life among students. A mixed-methods explanatory sequential design was employed, combining surveys and thematic analysis. Data were collected from 575 students. Quantitative results indicated high levels of academic stress, low academic engagement, and a strong presence of meaning-making in students' experiences. While stress directly reduced engagement, it simultaneously impacted meaning-making processes that partially counterbalanced its negative effects, fostering engagement and reflecting a post-traumatic growth-like response. Moreover, these findings highlighted situational contributors to stress, including extended school hours, inflexible schedules, and inadequate rest, which exacerbated fatigue and diminished engagement. These results suggest that schools should foster an environment that encourages meaningful learning opportunities through policies that allow flexible scheduling, sufficient rest, and institutional support. Such measures may help reduce stress-related disengagement while harnessing the adaptive potential of stress to promote personal and professional development. Furthermore, these findings highlight the importance of implementing evidence-based strategies such as revised timetables, wellness breaks, workload management, and counseling services to maintain student well-being and engagement.

Contribution/ Originality: This study offers new insights by examining how stress, meaning-making, and academic engagement interact under extended school hours an area rarely explored. By analyzing how students interpret and navigate longer days, it uncovers the subtle processes that influence their motivation, resilience, and sustained participation in the learning process.

1. INTRODUCTION

Excessive academic demands, both in the classroom and through homework, have long been recognized as a major source of stress for students. When school hours extend beyond sustainable limits, the results often include heightened stress, emotional fatigue, and reductions in overall well-being. Research has linked prolonged study hours to negative mood states, increased anxiety, and diminished subjective quality of life (Kouzma & Kennedy, 2004; Lo, Ong, Leong, Gooley, & Chee, 2016). These pressures are not confined to students alone. Teachers, who are exposed

to longer contact hours, also face increased workload intensity, which elevates the risk of burnout, undermines instructional quality, and erodes the broader learning environment (Virtanen, Ervasti, Oksanen, & Kivimäki, 2021).

A local study by Conwi (2021) observed that stress levels among Filipino senior high school students are influenced not only by workload but also by socio-demographic and personality factors, which imply that individual traits can be linked to academic pressure. Additionally, Olson et al. (2025) reported the highest stress levels and most significant burnout symptoms among students of Medicine, Sports, and Health Sciences. These findings from both studies emphasize that stress often has negative effects; however, its impact can be mitigated by personal strengths and supportive environments surrounding students.

The relationship between stress and academic engagement remains complex. Evidence from Saudi undergraduate nursing students revealed that perceived stress directly lowered emotional intelligence, emotional regulation, and engagement, while both emotional intelligence and regulation acted as protective factors against disengagement (Alkharj et al., 2024). Extended school hours further complicate this dynamic by reducing time for extracurricular involvement. Activities such as sports, clubs, and the arts are strongly associated with student motivation, social integration, and developmental growth (Eccles & Barber, 1999; National Center for Education Statistics, 1995). Students may lose vital outlets for self-expression and significant learning experiences, such as research consultation, peer collaboration, and personal development, due to persistent academic exhaustion.

Differences across disciplines also highlight the multifaceted role of stress. Olson et al. (2025) found that stress and burnout were most pronounced among Information Technology students, while medical students reported higher engagement and lower stress levels. Gender disparities further complicate the picture, with female students consistently experiencing greater stress levels. At a broader level, Setiyadi et al. (2025) documented how institutional pressures and extended schedules contributed to widespread stress and burnout among university students and staff in the post-COVID-19 era across Southeast Asia, demonstrating the global reach of these challenges.

Well-being functions as the central mediator in this model. While academic workload emerged as the strongest source of stress undermining engagement, students with higher well-being supported by caring faculty, positive peer relationships, meaningful leisure, and overall life satisfaction were less likely to disengage. In this sense, well-being softens the impact of heavy academic demands and maintains students' motivation even under strain. Similarly, Sinval, Oliveira, Novais, Almeida, and Telles-Correia (2025) found that depression, anxiety, and stress often go hand in hand in lowering student engagement and raising the risk of dropping out. On the other hand, students who stay engaged tend to perform better academically and are less likely to leave school. Together, these studies show that engagement plays a key role in linking stress and academic success. Overall, the literature suggests that stress usually weakens engagement, though in some cases it can temporarily drive students to work harder before fatigue eventually sets in. This indicates that other factors especially a sense of meaning in life need to be examined.

Thus, delving into the effects of extended school hours is both timely and necessary. This study aims to determine whether a well-designed approach that balances academic demands with meaning-making and resilience can inform better school policies regarding class schedules, workload, and student support. The goal of this research is to maintain academic rigor while safeguarding students' health and motivation.

1.1. Theoretical Framework

Research shows that academic stress can both hinder and motivate students, depending on how they interpret and manage it. When stress overwhelms coping resources, it can lead to burnout and disengagement (Lazarus & Folkman, 1984). However, when students use emotional regulation and reflection, stress can become a source of growth and persistence (Alkharj et al., 2024). Studies also highlight that meaning-making the ability to find purpose or value in difficult experiences helps students maintain focus and well-being during challenging academic periods (Barbayannis et al., 2022; Conwi, 2021). Despite these insights, little is known about how meaning-making specifically shapes the link between stress and engagement in Filipino senior high school students, especially those navigating

extended school schedules. This study fills the gap by examining both the measurable relationships and the personal experiences behind them. This study draws on Park (2010)'s Meaning-Making Model, which explains how individuals cope when life events disrupt their core beliefs, values, or goals. Stress becomes distressing not only because of external pressures but also because it challenges one's sense of meaning and coherence. To restore balance, individuals reinterpret experiences, adjust their goals, or reshape their beliefs to reconnect events with their larger purpose. In the school context, students may use meaning-making to reconcile the tension between heavy workloads and personal values, transforming stress into motivation. Within this framework, meaning-making is viewed as a mediator that helps explain how perceived stress influences academic engagement.

1.2. Research Problem

Currently, no systematic evaluation has been conducted on how extended school schedules influence student outcomes, despite increasing concerns about their impact on well-being and learning. Prolonged hours seem to increase the risks of sleep deprivation, fatigue, heightened stress, and decreased academic engagement, all of which may undermine both student performance and teaching effectiveness. The primary research questions guiding this inquiry are outlined below.

In what ways does meaning-making mediate the relationship between perceived stress and academic engagement among senior high school students as they adjust and build resilience within extended school hours?

To address this gap, the present study seeks to examine the levels of stress, academic engagement, and meaning-making among students under extended school hours, and to determine whether meaning-making mediates the relationship between perceived stress and engagement. Beyond quantitative assessment, the study also explores the lived experiences of senior high school students navigating extended schedules, providing qualitative insights into the personal and contextual challenges they encounter. Ultimately, by combining these strands of evidence, the research aims to propose actionable mitigation strategies and policy recommendations that can alleviate the detrimental effects of extended school hours while promoting student resilience, well-being, and engagement.

2. METHODOLOGY

2.1. Research Design

This study employed a cross-sectional predictive design to examine stress levels, academic engagement, and the sense of meaning in life among Senior High School (SHS) students. Data were collected through a structured questionnaire distributed to learners. The approach aimed to provide a clear understanding of how these factors interact within a single academic period, offering insights into students' experiences during extended school hours. Data collection took place over one academic semester. Descriptive statistics were used to summarize patterns and trends, while triangulation with secondary sources was conducted to enhance the validity of the findings. The respondents were Grade 11 and Grade 12 students from a medical school, selected through total enumeration to ensure representation. A total of 575 students were analyzed after screening for completeness and response consistency. All statistical analyses were performed using IBM SPSS Statistics (version 26) and JASP (0.95.4) for structural modeling.

2.2. Research Locale

The study was conducted at De La Salle Medical and Health Sciences Institute, an urbanized city in southern Luzon, Philippines.

2.3. Research Participants

The participants of this study were Grade 11 and Grade 12 students enrolled in the medical track of the senior high school department. Using total enumeration, all eligible students were invited to participate to maximize

representativeness. After screening the survey forms for completeness and consistency, 575 valid responses were retained for analysis.

Descriptive statistics provided an overview of student demographics and sleep-related behaviors. Of the total respondents, 575 had complete data. The sample was fairly balanced by sex (M = 1.72, SD = 0.45), with codes 1 and 2 representing male and female students, respectively. The average daily travel time to school was approximately 2.58 on a four-point scale (SD = 0.96), indicating that many students spent considerable time commuting.

Patterns in sleep behavior reveal critical concerns. Students reported going to bed relatively late (M = 4.46, SD = 1.19 on a six-point scale) and obtaining limited sleep on school nights (M = 1.48, SD = 0.69 on a four-point scale). Wake-up times on school days clustered toward the earliest response categories (M = 1.21, SD = 0.45), suggesting shortened rest before early morning schedules. By contrast, students compensated with longer sleep durations on weekends and non-school days (M = 2.91, SD = 0.97), indicating a pattern of "catch-up" sleep. Similar to earlier findings by Conwi (2021), who documented that stress levels in senior high school students were strongly influenced by academic workload and lifestyle factors. The current results illustrate how extended schedules and commuting demands exacerbate sleep deprivation and stress among adolescents.

Difficulties with sleep regulation were also common among respondents. Many reported trouble falling asleep or staying asleep, with a mean score of 3.04 and a standard deviation of 0.88. Additionally, they indicated only moderate regularity in their daily sleep–wake routines, with a mean of 2.51 and a standard deviation of 0.89. These findings are consistent with Conwi (2021), who observed that students under blended and extended schedules experienced increased distress. However, some students were able to adapt through various coping strategies. Overall, the descriptive profile suggests that prolonged school hours, long travel times, and academic workload negatively impact students' sleep and recovery. These factors have significant implications for stress levels, engagement, and overall well-being, highlighting the need for interventions to improve sleep hygiene and manage academic demands effectively.

2.4. Research Instrument

To validate the research instruments, a pilot study involved 30 senior high school participants. The pilot study assessed the reliability of instruments such as the Perceived Stress Scale (0.96), Meaning-Making (0.88), and Academic Engagement (0.86).

The Perceived Stress Scale (PSS-10) is a standardized instrument consisting of 10 items that assess students' perceived stress levels. Responses are rated on a Likert scale ranging from 0 (Never) to 4 (Very Often). The Meaning-Making Scale has been adapted to evaluate how students find significance and purpose in their academic and life experiences, with responses rated on a 7-point Likert scale from 1 (Strongly Disagree) to 7 (Strongly Agree). The Academic Engagement Scale is a validated measure that assesses behavioral, cognitive, and emotional engagement in learning, also rated on a 7-point Likert scale.

2.5. Data Gathering Procedure

Permission to conduct the study was first secured from the school administration. Following ethical research standards, informed consent and assent were obtained from the students and their parents or guardians. They were assured that participation was voluntary and that their responses would remain anonymous and confidential. The survey was administered both online and in person, depending on what was most accessible for each group of students. This flexible approach helped ensure inclusivity and encouraged higher participation. Data collection took place over three to four weeks. During this period, all submitted questionnaires were carefully checked for completeness and consistency before analysis. The study employed both descriptive and inferential statistics to gain a comprehensive understanding of how stress, academic engagement, and meaning-making relate to one another. Descriptive analysis included calculating the mean, standard deviation, and frequency distribution to summarize the students' overall

responses. This step provided a clear overview of trends and patterns, which, as Creswell and Creswell (2018) emphasized, serves as a foundation for interpreting survey data in educational research.

To explore relationships among the main variables, inferential methods were used. Pearson's correlation coefficient was applied to determine the strength and direction of links between stress, meaning-making, and academic engagement, following prior studies that examined academic stress and student well-being (Pascoe, Hetrick, & Parker, 2020). To test whether meaning-making played a mediating role, a mediation analysis was performed using the Delta method, with bias-corrected bootstrap confidence intervals and a maximum likelihood estimator. As Hayes (2018) noted, mediation analysis is a valuable tool for identifying indirect effects and underlying mechanisms in psychological and educational studies. Bootstrapping was used to enhance the accuracy and stability of the results by minimizing sampling error. Overall, these statistical techniques allowed the study to examine whether finding meaning in life could lessen the negative effects of stress on students' academic engagement, providing insights into how resilience and reflection contribute to student well-being.

2.6. Ethical Considerations

The conduct of this research closely followed established ethical standards. Before the study began, approval was obtained from the senior high school administration. At the start of data collection, students were informed about the study's purpose and their rights as participants. They were reminded that participation was voluntary and that they could withdraw at any time without any consequences. All responses were treated with full confidentiality and anonymity.

The research team ensured that no students were placed at risk or experienced discomfort during the process. Clear instructions were provided, and consent forms were explained carefully to ensure that both students and parents understood what participation entailed. The study also avoided any form of deception and respected each participant's privacy throughout. These measures reflect the institution's commitment to protecting students' welfare and upholding the ethical principles of fairness, respect, and responsibility in all research activities.

Table 1. Mean and standard deviation of perceived stress.

Perceived stress scale	Mean	SD	Min.	Max.	Interpretation
1. In the last month, how often have you been upset because of something that happened unexpectedly?	2.923	0.911	0.00	4.00	High
2. In the last month, how often have you felt that you were unable to control the important things in your life?	3.124	0.951	0.00	4.00	High
3. In the last month, how often have you felt nervous and 'stressed'?	3.517	0.780	0.00	4.00	Very High
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	2.133	0.983	0.00	4.00	Moderate
5. In the last month, how often have you felt that things were going your way?	1.801	0.975	0.00	4.00	Moderate
6. In the last month, how often have you found that you could NOT cope with all the things you had to do?	2.792	0.982	0.00	4.00	High
7. In the last month, how often have you been able to control irritations in your life?	2.007	0.972	0.00	4.00	Moderate
8. In the last month, how often have you felt that you were on top of things?	1.426	1.054	0.00	4.00	Low
9. In the last month, how often have you been angered because of things that happened that were out of your control?	2.652	1.109	0.00	4.00	High
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	3.135	0.955	0.00	4.00	High
Total	**2.551**	**0.9672**	**0.00**	**4.00**	**High**

Note: Very Low (0.00–0.80), Low (0.81–1.60), Moderate (1.61–2.40), High (2.41–3.20), and Very High (3.21–4.00).

3. RESULTS AND DISCUSSION

Table 1 presents the descriptive results of the Perceived Stress Scale (PSS). The overall mean score of 2.55 indicates a high level of stress among respondents, suggesting that students generally perceive their academic and personal demands as overwhelming. Examining specific items, the highest-rated stressor was the feeling of being "nervous and stressed" (M = 3.52, SD = 0.78), which reached a very high level of interpretation. Similarly, feelings of being unable to control important life matters (M = 3.12) and perceiving difficulties as overwhelming (M = 3.14) were also rated highly, indicating that students often struggle with personal efficacy and problem-solving under stress. Conversely, lower scores were observed in items reflecting confidence and control, such as "felt on top of things" (M = 1.43, Low) and "felt things were going your way" (M = 1.80, Moderate). These results suggest that while students frequently experience stress, they rarely feel a sense of mastery over their circumstances, highlighting potential gaps in coping strategies and resilience-building mechanisms.

The present findings align with Conwi (2021), who reported that stress among senior high school students is influenced by both socio-demographic characteristics and academic workload. This emphasizes how structural pressures can intensify stress responses. Earlier studies reinforce the interpretation that high Perceived Stress Scale (PSS) scores among students reflect not only immediate academic demands but also broader lifestyle and institutional factors that influence stress and coping mechanisms. Overall, the findings suggest that students are highly vulnerable to stress due to both academic and non-academic pressures. Elevated stress levels may negatively impact concentration, academic performance, and psychological well-being, as supported by Lazarus and Folkman (1984) transactional model of stress and coping. This model posits that stress occurs when perceived demands exceed available coping resources. Consequently, it underscores the importance of institutional policies that provide mental health support, stress management interventions, and adjustments to academic workload to help students maintain balance and well-being.

Table 2. Mean and standard deviation of academic engagement.

Academic engagement	Mean	SD	Min.	Max.	Interpretation
1. I think school is good for me	5.490	1.317	1.00	7.00	High
2. Despite the difficulties I sometimes encounter in school life, I think it is worth continuing my studies	5.734	1.242	1.00	7.00	High
3. Going to school is a great opportunity for me	6.084	1.015	1.00	7.00	High
4. School engagement is part of my life plans	5.745	1.146	1.00	7.00	High
5. Most of the time, I intend to stay in school	4.344	1.927	1.00	7.00	Neutral
6. The course of study I'm attending is an opportunity for me	6.013	1.058	1.00	7.00	High
7. I am convinced that my decision to enroll in this school was the right one for me	5.168	1.478	1.00	7.00	Somewhat high
8. I like the course of study I'm attending	5.541	1.295	1.00	7.00	High
9. The course of study I'm attending is functional to the achievement of my professional goals	5.916	1.103	1.00	7.00	High
10. My teachers are interested in my opinions and what I say	5.432	1.273	1.00	7.00	Somewhat high
11. My teachers respect me as a person	6.102	1.009	1.00	7.00	High
12. Teachers are usually available to discuss my work	5.639	1.175	1.00	7.00	High
13. Teachers clarify what they expect of us students	5.801	1.123	1.00	7.00	High
14. I've made meaningful friends with some classmates	6.106	1.160	1.00	7.00	High
15. I have good relationships with my classmates	6.044	1.070	1.00	7.00	High
Total	**5.678**	**1.226**	**1.00**	**7.00**	**High**

Note: 1.00–1.86 (Very Low), 1.87–2.72 (Low), 2.73–3.58 (Somewhat Low), 3.59–4.44 (Neutral), 4.45–5.30 (Somewhat High), 5.31–6.16 (High), and 6.17–7.00 (Very High).

Table 2 presents the mean levels of academic engagement. Results indicate that students generally demonstrate a high level of academic engagement (M = 5.68, SD = 1.23). Learners perceive their schooling as meaningful and worthwhile, as reflected in items such as "Going to school is a great opportunity for me" (M = 6.08) and "I have good

relationships with my classmates" (M = 6.04). These responses highlight the positive value placed on education as both personally enriching and professionally relevant. However, the relatively lower mean score for the item "Most of the time I intend to stay in school" (M = 4.34, Neutral) points to a potential risk of disengagement or dropout. This finding suggests that while day-to-day engagement with peers and teachers is strong, long-term persistence in school may be undermined by stress, fatigue, or misalignment between institutional expectations and student goals. Teacher–student interactions also revealed mixed outcomes: students reported high levels of respect and availability from teachers, but only "somewhat high" ratings on listening to student opinions (M = 5.43), indicating room for more participatory and collaborative learning environments.

These findings align with prior local and international evidence. Conwi (2021) documented that stress in senior high school students was strongly associated with workload and socio-demographic characteristics, which often erode long-term commitment despite positive peer and teacher relationships. Broader international literature reinforces these interpretations. For instance, research on adolescent sleep and school scheduling shows that extended school hours and early start times exacerbate fatigue, weaken emotional regulation, and reduce academic engagement (American Academy of Pediatrics, 2014; Minges & Redeker, 2016). The systematic review by Beattie, Kyle, Espie, and Biello (2015) further linked disrupted sleep to strained social interactions, a finding consistent with the present results showing strong peer relationships but weaker long-term commitment. In higher education contexts, stress has repeatedly been shown to compromise engagement and well-being (Barbayannis et al., 2022; Pascoe et al., 2020; Pérez-Jorge, Boutaba-Alehyan, González-Contreras, & Pérez-Pérez, 2025) while heavy workloads have been associated with poorer academic persistence and reduced well-being (Yangdon, Sherab, Choezom, Passang, & Deki, 2021). These patterns are echoed in Setiyadi et al. (2025), who documented heightened stress and burnout among Southeast Asian students and faculty in the post-COVID-19 era, emphasizing institutional pressures as a key driver of disengagement.

Taken together, the present study affirms that while students generally report high levels of academic engagement and value their schooling, structural stressors such as extended schedules, heavy workload, and inadequate opportunities for rest may undermine their long-term persistence. By situating these results alongside prior research (American Academy of Pediatrics, 2014; Conwi, 2021; Pascoe et al., 2020), it becomes evident that sustaining engagement requires not only supportive teacher–student and peer relationships but also systemic reforms in scheduling, workload management, and resilience-building strategies.

Table 3. Mean and standard deviation of perceived meaning in life.

Meaning-making	Mean	SD	Min.	Max.	Interpretation
1. I understand my life's meaning.	4.583	1.517	1.00	7.00	Somewhat high
2. I am looking for something that makes my life feel meaningful.	5.639	1.313	1.00	7.00	Somewhat high
3. I am always looking to find my life's purpose.	5.568	1.430	1.00	7.00	Somewhat high
4. My life has a clear sense of purpose.	4.512	1.561	1.00	7.00	Neutral
5. I have a good sense of what makes my life meaningful.	4.761	1.533	1.00	7.00	Somewhat high
6. I have discovered a satisfying life purpose.	4.353	1.595	1.00	7.00	Neutral
7. I am always searching for something that makes my life feel significant.	5.423	1.503	1.00	7.00	High
8. I am seeking a purpose or mission for my life.	5.454	1.450	1.00	7.00	High
9. My life has a clear purpose.	4.550	1.915	1.00	7.00	Somewhat high
10. I am searching for meaning in my life.	5.439	1.483	1.00	7.00	High
Total	**5.028**	**1.530**	**1.00**	**7.00**	**Somewhat high**

Note: 1.00–1.86 (Very Low), 1.87–2.72 (Low), 2.73–3.58 (Somewhat Low), 3.59–4.44 (Neutral), 4.45–5.30 (Somewhat High), 5.31–6.16 (High), and 6.17–7.00 (Very High).

Table 3 presents the mean levels of meaning-making. The results show that students reported a somewhat high overall level of meaning-making in life (M = 5.03, SD = 1.53), suggesting that, on average, they actively engage in

reflecting on and constructing meaning in their experiences. This implies that while students generally perceive their lives as meaningful, variability exists across specific dimensions of meaning-making. Looking at individual indicators, the highest mean scores were observed in "I am looking for something that makes my life feel meaningful" (M = 5.64, SD = 1.31), "I am always looking to find my life's purpose" (M = 5.57, SD = 1.43), and "I am searching for meaning in my life" (M = 5.44, SD = 1.48). All three fall within the high interpretation range, underscoring that students are actively seeking purpose and significance. This pattern reflects what Park (2010) describes in the Meaning-Making Model individuals experiencing stress or transition often begin with a search for meaning before achieving a stable sense of coherence. Martela and Steger (2016) likewise explain that meaning development typically moves from exploration to commitment as individuals gain life experience. In academic settings, stress can act as a catalyst for reflection and self-definition, motivating students to connect school demands with personal values (Pascoe et al., 2020).

In contrast, lower scores were reported for "I have discovered a satisfying life purpose" (M = 4.35, SD = 1.60) and "My life has a clear sense of purpose" (M = 4.51, SD = 1.56), both of which were interpreted as neutral. These results suggest that, while students are engaged in the search for meaning, many have not yet consolidated or fully committed to a clear and enduring sense of life purpose. This pattern is consistent with research noting that meaning-making often begins with active searching, whereas the development of a stable purpose typically requires more time and experience, particularly in contexts marked by high academic stress and transitions (Martela & Steger, 2016).

The current findings resonate with both local and international evidence. Alkharj et al. (2024) found that even under distressing learning conditions, students who effectively regulated their emotions and utilized emotional intelligence were more capable of sustaining academic engagement. Similarly, Park (2010) highlighted that meaning-making plays a pivotal role in fostering adjustment to stressful experiences by enabling individuals to reconstruct purpose and coherence amid adversity. These findings emphasize the importance of supporting students not only in managing stress but also in cultivating meaning-making and emotion regulation capacities as protective buffers that enhance engagement and overall well-being.

Table 4. Stress and academic engagement.

Variables	R	p	Interpretation
Stress and Academic Engagement	-0.139	0.05	Significant

Note. df = 1,575. Not Significant at .05 level.

3.1. Relationship among Variables

Table 4 presents a weak negative correlation (r = −0.139) between stress and academic engagement, with a p-value of 0.05, which falls at the threshold of significance. This suggests that as students' stress levels increase, their engagement in academic activities slightly decreases. While the relationship is weak, it is statistically meaningful indicate that stress can hinder students' ability to remain motivated, attentive, and actively involved in their learning. In practical terms, prolonged stress may lead to fatigue, reduced concentration, and eventual academic disengagement. This pattern echoes findings by Puiu et al. (2024), who identified academic stressors as having a small but negative effect on engagement, and Sinval et al. (2025), who found that depression, anxiety, and stress combined were associated with lower engagement in medical students.

Table 5. Stress and meaning-making.

Variables	R	p	Interpretation
Stress and meaning-making	0.339	<0.001	Significant

Note. df = 1,575. Not Significant at .05 level.

Table 5 presents a moderate positive correlation (r = 0.339, p < .001) between stress and meaning-making. This indicates that higher stress levels are associated with greater meaning-making efforts among students. In other

words, stressful experiences may prompt students to reflect more deeply on their lives, search for purpose, and reframe difficulties as opportunities for growth. This aligns with psychological theories suggesting that adversity often stimulates processes of self-reflection, resilience-building, and the pursuit of life meaning. Conwi (2021) highlighted that senior high school students experiencing heightened stress often exhibited adaptive coping linked to personality traits, suggesting that stress can activate reflective processes. These findings converge with Park (2010) meaning-making model and Martela and Steger (2016) assertion that stressful life transitions can stimulate deeper pursuits of coherence, purpose, and significance.

Table 6. Meaning-Making and Engagement.

Variables	R	p	Interpretation
Meaning-Making and Engagement	0.471	<0.001	Significant

Note. df = 1,575. Not Significant at .05 level.

Table 6 shows that the strongest relationship was observed between meaning-making and academic engagement ($r = 0.471$, $p < .001$), indicating a moderate to strong positive correlation. Students who engage in meaning-making finding purpose, significance, or direction in their experiences tend to be more actively engaged academically. This highlights the importance of personal meaning and purpose as motivational factors that help students remain committed, persistent, and enthusiastic in their studies despite challenges. Martela and Steger (2016) emphasize that coherence, purpose, and significance are central dimensions of meaning in life that foster engagement and vitality. In the educational context, research has demonstrated that meaning in life is positively associated with academic motivation and persistence, reinforcing its role as a protective factor in student success.

Table 7. Competitive mediation analysis.

Variables	z-value	p	Interpretation
Meaning-making → Engagement	10.356	<0.001	Significant
Stress → Engagement	-3.822	<0.001	Significant
Stress → Meaning making	3.931	<0.001	Significant

Note. Estimates are standardized. Delta method standard errors, bias-corrected percentile bootstrap confidence intervals, and ML estimator were applied.

Figure 1 illustrates the competitive mediation model, demonstrating how meaning in life functions as a mediator between perceived stress and academic engagement.

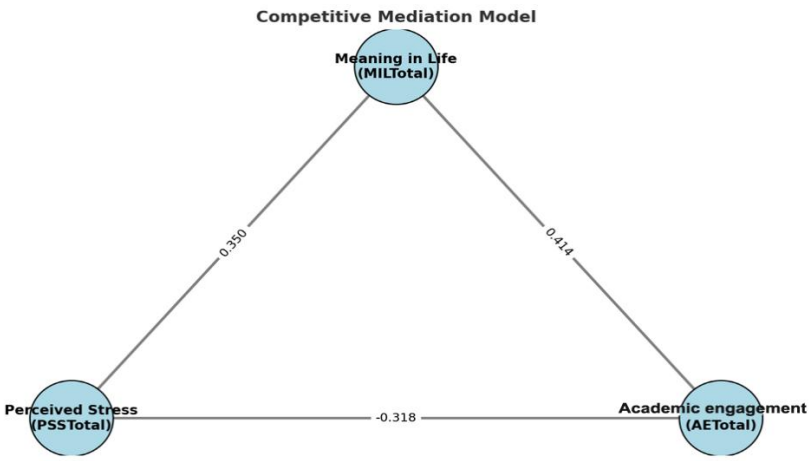

Figure 1. Competitive mediation analysis.

Table 7 presents a competitive mediation model tested to examine the relationships among stress, meaning-making, and academic engagement. Standardized estimates, z-values, and p-values are provided. The results indicate

that stress negatively predicts academic engagement ($z = -3.82$, $p < .001$), while meaning-making positively predicts engagement ($z = 10.36$, $p < .001$). Additionally, stress significantly predicts meaning-making ($z = 3.93$, $p < .001$). These findings highlight the dual role of stress in the academic context. On one hand, stress directly undermines academic engagement, confirming previous research that excessive academic demands and extended school hours can exhaust students and diminish their ability to participate meaningfully in learning activities (Conwi, 2021). On the other hand, stress also indirectly fosters academic engagement by promoting meaning-making. When students interpret stress as an opportunity for growth, they can construct purpose and significance from their academic challenges, which in turn enhances their engagement. This dynamic echoes Park (2010) meaning-making model, which posits that individuals respond to stress by aligning situational appraisals with global beliefs, and Martela and Steger (2016) assertion that purpose and significance act as motivational resources that sustain persistence.

This perspective on competitive mediation emphasizes that stress is not inherently harmful; rather, its effects depend on how students interpret and manage it. According to Lazarus and Folkman (1984), the transactional model suggests that stress outcomes are influenced by individuals' cognitive appraisal and coping strategies. Empirically, Alkharj et al. (2024) found that emotion regulation and emotional intelligence mediate the link between stress and academic engagement, showing that when students can cognitively and emotionally process stress, it becomes a source of motivation rather than burnout.

3.2. Qualitative Study

SHS students are increasingly challenged by the demands of academic life, often reporting difficulty in balancing sleep, coursework, and extracurricular activities. The intensification of academic workload has been associated with stress, diminished well-being, and impaired time management. While institutional reforms continue to emphasize academic rigor, relatively fewer studies explore students' lived experiences of workload and their own recommendations for alleviation. Addressing this gap is crucial, as a prolonged imbalance between academic expectations and personal well-being may hinder not only learning outcomes but also holistic development. Therefore, this study seeks to thematically analyze student narratives to identify patterns of challenge and coping, thereby generating evidence-based recommendations for educational practice.

Thematic analysis of 575 student responses yielded five overarching domains with associated categories. Tables 8-10 present the domains, categories, frequency classifications and literature support. The following section offers a comprehensive discussion of each domain, supported by verbatim excerpts from participants.

Table 8. Academic pressure and overload.

Domain	Key findings/Verbatim	Literature support
Academic pressure & overload • Excessive assessments (337) • Long school hours (354)	Students report overlapping quizzes/Projects, no breathing space; very long days (5 am–evening) that leave little rest. *"What's hard for me is the daily quizzes and performance tasks we have to prepare for. Sometimes they come one after another with no breathing space."* *Another echoed, "We've had days with 3–4 quizzes plus group projects, and it feels impossible to keep up."* *"I wake up at 5am and don't get home until 7 or 8 PM. After that, I still have to study for several hours. By the end of the week, I am completely drained."*	Pérez-Jorge et al. (2025) found *homework overload, assessment pressure, and difficulty reconciling academic and personal life* as main stressors. "Well-being and Academic Workload: Perceptions …" (Yangdon et al., 2021) also shows dissatisfaction with high academic load among science & technology students, and the negative emotions arising.

Note: N = 575 student responses. General = >400 cases represented; Typical = 200–399 cases represented; Variant = <200 cases represented.

This domain underscores the intensity of academic requirements and the structural design of students' schedules, which students perceive as both excessive and relentless. The excessive assessments category, classified as typical with 337 cases, reveals how the accumulation of quizzes, projects, and performance tasks fosters a sense of continuous demand that compromises deep learning and heightens anxiety. At the same time, the category on long school hours with 354 students mentioning it shows how extended class days and long commutes leave many exhausted. These conditions limit their time to rest, recover, or simply take a break from academic work. When viewed together, the data reveal that the challenge is not just about having too many tasks, but about how the structure of school life itself can become overwhelming. The results point to a clear mismatch between what institutions expect and what students can realistically manage, trapping many in a routine of endurance rather than genuine, engaged learning. These findings suggest that the challenge lies not simply in the number of academic tasks but in how the structure of school life itself can become overwhelming. The pattern echoes prior research indicating that excessive workload and insufficient rest undermine well-being and engagement (Barbayannis et al., 2022; Pascoe et al., 2020). Studies on adolescent health also warn that prolonged school schedules and early start times exacerbate stress and sleep deprivation (American Academy of Pediatrics, 2014; Minges & Redeker, 2016).

Table 9. Time management and balance.

Domain	Key findings/Verbatim	Literature support
Time management & balance • Loss of rest time (457) • Prioritization struggles (200)	Rest/Leisure sacrificed; anxiety over what to prioritize; family responsibilities also weigh in. *"Even during weekends, I can't relax because all I think about is what needs to be accomplished next week."* *Another noted, "I feel like school has taken over every part of my day; there is no more time for myself."* *"It's draining to handle schoolwork while also having chores and responsibilities at home."*	The Yangdon et al. (2021) study reports students struggling with negative emotions due to workload + basic facility concerns, which affects well-being. "Academic Stress and Mental Well-Being in College Students" (Barbayannis et al., 2022) shows strong correlations between perceived academic stress and poor time management and mental health

Note: N = 575 student responses. General = >400 cases represented; Typical = 200–399 cases represented; Variant = <200 cases represented.

This domain reflects the erosion of discretionary time and the difficulty students face in prioritizing competing demands. The loss of personal and rest time, identified as a common concern with 457 cases, emerged as the most pervasive issue, as students reported that academic responsibilities continuously intrude upon opportunities for leisure and sleep, even during weekends. Complementing this, the struggle with prioritization, categorized as typical with 200 cases, illustrates how students grapple with balancing school requirements alongside family obligations and self-care, with poor planning and procrastination further aggravating stress. Together, these categories demonstrate that students are not only pressured by external structures but are also engaged in an internal negotiation of priorities, often feeling that any choice results in deficits across academic performance, health, or personal relationships. These findings align with research emphasizing the link between overextended schedules, fatigue, and declining well-being. Beattie et al. (2015) and Lo et al. (2016) found that chronic sleep restriction and reduced social interaction significantly impair mood, cognitive performance, and emotion regulation. Similarly, Virtanen et al. (2021) and Barbayannis et al. (2022) reported that long working or study hours diminish work–life balance and increase psychological strain.

Table 10. Time management and balance.

Domain	Key findings/Verbatim	Literature support
Well-being & Health • Sleep deprivation (405) • Stress & fatigue (214)	Many students describe persistent tiredness, poor sleep, emotional exhaustion, even during non-school days. *I go to school already tired and sleepy. Even weekends are no better—I still can't sleep properly,"* *Stressful and tiring—it's enjoyable at times, but mostly just tiring."* *Another added, "The pressure makes me lose motivation even when I want to learn."*	Numerous studies confirm that a higher academic load correlates with poorer mental health, including stress and depression, as well as poorer sleep quality. For example, Barbayannis et al. (2022) have found a correlation between academic stress and mental well-being deficits. "Well-being and Academic Workload…" (Yangdon et al., 2021) also finds negative emotions and health implications from heavy workload

Note: N = 575 student responses. General = >400 cases represented; Typical = 200–399 cases represented; Variant = <200 cases represented.

This domain highlights the embodied costs of academic workload, demonstrating how educational structures manifest in both psychological and physiological strain. The sleep deprivation category, rated as typical with 405 cases, indicates that rest is consistently compromised, with students framing inadequate sleep as a chronic condition rather than an occasional disruption. Additionally, stress and fatigue, also classified as typical with 214 cases, reflect emotional exhaustion that diminishes motivation and creates tension between the desire to learn and the weariness imposed by constant demands. These categories align with existing literature linking workload intensity to burnout and illustrate that academic overload is not a neutral pedagogical design but a significant determinant of student health, directly affecting both immediate functioning and long-term well-being. The findings are consistent with evidence connecting workload intensity to burnout and diminished cognitive functioning. Lo et al. (2016) demonstrated that sleep deprivation among adolescents significantly impairs mood and concentration, while Minges and Redeker (2016) and the American Academy of Pediatrics (2014) underscored how prolonged study hours and early start times disrupt biological rhythms essential for recovery. Similarly, Olson et al. (2025) found that sustained academic pressure increases exhaustion and reduces engagement across disciplines.

3.3. Proposed Mitigation Strategies or Policies Can Be Proposed Based on the Findings of the Study

Based on the narratives and the results discussed, the study revealed that extended school hours contributed to heightened academic stress, fatigue, and reduced engagement among students.

The results revealed that students reported high levels of academic stress and low engagement, with many experiencing cognitive fatigue due to extended class hours. At the same time, meaning-making emerged as a compensatory process, where students tried to reframe challenges as opportunities for growth. One student shared, *"I feel so drained after classes, but I remind myself that this is part of my journey to become stronger."* This highlights the tension between workload and resilience.

In line with these findings, the proposed mitigation strategies offer a balanced and responsive intervention. First, reducing classroom contact by approximately 30 minutes per subject (excluding laboratories) directly addresses the issue of cognitive overload identified in both survey data and student narratives. This adjustment recognizes that mastery of content is not solely dependent on longer contact hours but on efficient, meaningful engagement. Students themselves echoed this need, with one remarking, *"Sometimes I just wish we had even a little more breathing space to catch up on readings and sleep."* Such changes would not compromise mastery but would support better balance.

A dominant pattern was the call for systemic change in class hours and schedules. Students repeatedly suggested shorter class days, reduced subject hours, or one free day a week. A representative comment stated.

"If we could have even one day free or shorter class hours, it would help us manage requirements and still have time to rest."

Some participants pointed to the need for teachers to coordinate major tasks to avoid clustering deadlines. One respondent explained,

"Teachers should talk to each other so that they don't assign big projects all in the same week."

The demand for such reforms indicates students' awareness that workload is not only a personal issue but also an institutional one. When schedules are adjusted to be lighter, the additional time can be utilized for self-paced study and meaningful community participation through the Academic and Community Engagement (ACE) initiative. Many students have expressed the need for greater flexibility, opportunities for reflection, and chances to connect classroom learning with real-life experiences. Embedding ACE into school policy reframes stress from being solely negative into something that can foster growth, resilience, and a deeper sense of purpose.

Integrating ACE within the curriculum also supports growing evidence that stress, meaning-making, and engagement are interconnected. It encourages a broader view of education one that values well-being, purpose, and social connection alongside academic performance. Through reflective activities, collaboration, and service-oriented learning, ACE helps students develop both academically and personally. A balanced system that allows space for autonomy, rest, and community involvement enables students to sustain their motivation and growth. Ultimately, genuine achievement does not stem from spending longer hours in class but from learning environments that nurture both excellence and well-being.

Supporting Student Perspectives:

Very stressing, and that's because my life inside and outside of school aren't really going well. I often find myself questioning my purpose and even my whole life. … All day everyday all I should do is study, study, and study."

"I am lucky to be able to learn about taking care of my well-being before I study SHS. I learned how to see meaning, to be mindful, and to practice gratitude. These are the habits I used to pay attention to."

"Very tired … I know I need this so I can have a good course and help my family and community. But I have sacrifices to be made."

Third, institutionalizing ACE as part of educational policy aligns with the quantitative evidence linking stress and meaning-making to academic engagement. As one student reflected, *"I think education should not just be about grades. It should also teach us how to live meaningfully and serve others."* This idea captures why education must move beyond grades and test scores to focus on well-being, purpose, and social connection. When reflective activities, group projects, and community-based programs are woven into the curriculum through the Academic and Community Engagement (ACE) initiative, students grow not only in knowledge but also in character and compassion. This holistic approach echoes what many students have shared in interviews—their need for balance, time to pause, and space to care for themselves. Real academic success, therefore, is not measured only by achievement in class but by the ability to learn sustainably, live meaningfully, and contribute to others.

Supporting Student Perspectives:

"I think education should not just be about grades. It should also teach us how to live meaningfully and serve others."

"My daily life as a student is tiring since I cannot balance everything properly due to the schedule and workloads we have."

"My daily life as a student often feels like a constant race against time. … Between academic requirements, extracurricular commitments, and other school activities, I'm moving from one task to another, with little room to pause or recharge."

"As a student, I feel like I have no time for anything other than schoolwork. It feels like I am living life like a robot with no real joy."

"I am from Mendez, Cavite. Balancing my life outside academics has become difficult because I have to prioritize reviewing and completing activities. As a result, I have had to set aside other needs, such as time for myself and my family."

"To be honest, my daily life as a student no longer feels like something I look forward to because the activities I used to enjoy, such as jogging, working out, spending time with my family, and going out with friends, now seem like a distant memory."

"I really want to work out because I don't want to have a body that people perceive as unhealthy. Imagine you're a future medical student; how can people trust you just by looking at your body."

The findings and strategies converge on the conclusion that student development thrives not in extended classroom hours but in balanced systems that integrate efficiency, autonomy, and community connection. By reducing rigid contact hours and embedding ACE into the learning process, institutions can reframe stress from a burden into an opportunity for resilience, reflection, and holistic growth.

3.4. Cross-Construct Synthesis

The joint analysis of stress, engagement, and meaning-making reveals a complex yet coherent pattern among students. On one hand, the cohort demonstrates high perceived stress (M = 2.55), characterized by feelings of nervousness, loss of control, and accumulating difficulties. On the other hand, students also exhibit high academic engagement (M = 5.678), reflected in a strong appreciation of schooling as an opportunity, positive peer and teacher relationships, and recognition of education's relevance to future goals. Complementing these is a somewhat high level of meaning-making (M = 5.028), where students actively search for purpose and significance, although many have yet to consolidate a clear life direction. Taken together, these findings highlight a dual reality. Stress exerts a negative influence on engagement, eroding students' sense of mastery and increasing risks of disengagement or burnout. However, stress simultaneously stimulates meaning-making, as students interpret difficulties as part of a broader search for purpose. This meaning-making, in turn, enhances engagement by anchoring schoolwork to personal significance and long-term goals. The dynamic suggests that while stress is a vulnerability factor, it also has the potential to act as a catalyst for growth provided students receive adequate support to transform stress into purpose.

This interpretation resonates with the transactional model of stress and coping (Lazarus & Folkman, 1984), which frames stress outcomes as contingent upon the appraisal of demands relative to coping resources. In the present study, high demands coexist with fragile coping capacities; however, the presence of meaning-making appears to function as a compensatory resource that buffers disengagement. Such a process is consistent with evidence that stress can undermine academic involvement directly (Alkharj et al., 2024) while simultaneously motivating students to reframe adversity through meaning-oriented processes (Martela & Steger, 2016; Park, 2010). Local findings similarly affirm that stress and resilience interact to shape students' coping and adjustment, with reflective practices emerging as protective mechanisms against disengagement (Conwi, 2021). Overall, these results indicate that institutional support should not only focus on reducing stress but also actively cultivate meaning-making. By fostering reflective practices, resilience, and relevance in academic activities, schools can sustain engagement even under demanding conditions, thereby transforming stress from a pathway to burnout into a springboard for growth.

4. CONCLUSION

The findings of this study reveal that stress plays a dual role in the academic lives of senior high school students. High levels of stress can diminish students' sense of engagement in school and increase the risk of school burnout. However, stress can be mitigated through meaning-making, which encourages students to reflect on their purpose and find value in their activities. Schools have a crucial role not only in supporting students' academic journeys but also in promoting their overall well-being.

In addition, the connection between stress, meaning-making, and engagement demonstrates that schools should treat stress not only as a factor to be minimized but also as an opportunity for growth. Policies should aim to reduce unnecessary academic load while creating environments where students can reflect, connect, and find meaning in their studies. A practical step is to shorten classroom contact time by approximately thirty minutes per subject (excluding laboratory work) and utilize the extra time for Academic and Community Engagement (ACE) activities. This approach helps students transform pressure into purpose, combining academic rigor with personal well-being and community involvement. By redirecting the saved time into reflective practices, self-paced study, and service-oriented projects, ACE enables students to convert stress into resilience and purpose. Overall, student development thrives not through extended hours or increased workload but through balanced systems that incorporate efficiency,

autonomy, and community connection. By establishing structures that simultaneously reduce excess stress and foster meaning-making, institutions can ensure that stress is reframed from a burden into a catalyst for resilience, deeper learning, and holistic well-being.

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Institutional Review Board Statement: The study involved minimal risk and adhered to ethical guidelines for social science fieldwork. Formal approval from an Institutional Review Board was not required under the policies of De La Salle Medical and Health Sciences Institute – Senior High School, Philippines. Informed verbal consent was obtained from all participants, and all data were anonymized to ensure participant confidentiality.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
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