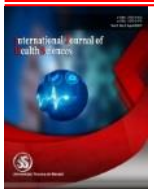

**International Journal of Health Sciences**
Available online at www.sciencescholar.us
Vol. 10 No. 2, August 2026, pages: 99-116
E-ISSN: 2550-696X
https://doi.org/10.53730/ijhs.v10n2.15924

# Academic Pressure, Family Habits, and Personality Traits as Predictors of School-Related Sedentary Behavior Among Senior High School Students in Iligan City

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*Manuscript submitted: 09 February 2026, Manuscript revised: 27 March 2026, Accepted for publication: 19 April 2026*

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***Keywords***

*academic pressure; family habits; personality traits; sedentary behavior; senior high school students;*

**Abstract**

This cross-sectional analytical study examined the relationship between academic pressure, family habits, personality traits, and school-related sedentary behavior among senior high school students in Iligan City. A total of 800 students aged 15 to 19 years from public and private schools participated. Data were collected using validated self-report questionnaires assessing academic pressure, family habits, personality traits, and sedentary behavior. Statistical analyses determined relationships and identified significant predictors. The findings showed that academic pressure, family habits, and personality traits had direct and significant relationships with school-related sedentary behavior. Identified predictors included sedentary mealtime behavior, sedentary entertainment viewing habits, despondency, sedentary reading and listening activities, and sedentary digital gaming and social media use. Emerging predictors included conscientiousness, worry about grades, open-mindedness, self-expectations, agreeableness, study-related pressure, and extraversion. Collectively, these models accounted for 14% to 23% of the variance in sedentary subscales. The results underscore the need to transition toward dynamic learning environments that integrate active breaks and digital wellness initiatives, alongside personality-sensitive support systems, to reduce sedentary habits and safeguard adolescent well-being.

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## 1 Introduction

Sedentary behavior is a prevalent global health concern affecting adolescents across all countries. Approximately 81% of adolescents worldwide did not meet the recommended levels of physical activity in 2022 (WHO, 2022). In addition, one-third of individuals aged 15 years and older were physically inactive, contributing to adverse health outcomes (Park et al., 2020). This issue is also evident in the Philippines, where 84.6% of adolescents fail to achieve sufficient physical activity, resulting in a national grade of F in physical activity indicators (Cagas et al., 2022).

Sedentary behavior has significant physical and mental health consequences. Prolonged inactivity increases the risk of type 2 diabetes, hypertension, stroke, osteoporosis, and respiratory conditions such as asthma and chronic obstructive pulmonary disease (WHO, 2024). It is also associated with anxiety, depression, stress, suicidal ideation, and impaired cognitive functions, including memory and concentration (Jiang et al., 2020).

Various interventions have been implemented to reduce sedentary behavior. School-based strategies, including active commuting, physical education, and structured movement breaks, have been shown to decrease sedentary time (Alalawi et al., 2024). Technology-based approaches, such as mobile health platforms and wearable devices, promote self-monitoring and encourage physical activity (Buckingham et al., 2019). In addition, community- and family-based strategies, including parental involvement and environmental support, contribute to sustained behavior change (Contardo Ayala et al., 2024).

Despite these interventions, sedentary behavior remains highly prevalent among adolescents. Females show higher rates, spending more time on recreational screen use, social media, and online learning (Herreros-Irrazabal et al., 2024). It is especially common among students and occurs across countries of all income levels (Abonie & Ackah, 2024). Poor dietary habits combined with inactivity increase the risk of non-communicable diseases, including diabetes and obesity (Calella et al., 2024). Technological use also drives sedentary behavior, as excessive gadget use and prolonged screen time reduce physical activity and increase obesity risk (Wang et al., 2024).

Nonetheless, significant gaps remain in understanding sedentary behavior and its determinants. Research on how educational background, familial involvement, and personality influence physical inactivity remains limited. Moreover, existing studies often fail to differentiate between types of sedentary activities, such as passive screen use versus academic sitting, especially in indoor contexts (Kracht et al., 2021). Another limitation is the small sample sizes in many studies, which hinder generalizability and reduce the ability to detect robust associations (Marijancic et al., 2023). Accordingly, this cross-sectional analytical study examines the relationship between academic pressure, family habits, personality traits, and school-related sedentary behavior among senior high school students.

## 2 Materials and Methods

*Theoretical Foundation*

Urie Bronfenbrenner's Ecological Systems Theory states that human development is shaped by interactions between the individual and interconnected environmental systems. The microsystem includes immediate settings such as family and school, where family habits, academic pressure, and personality traits directly influence behavior. The mesosystem reflects interactions between family and school that may influence academic pressure and daily routines. The exosystem includes indirect influences such as school policies and parental work conditions that shape students' environments. The macrosystem represents broader cultural values and expectations related to academic achievement and lifestyle. The chronosystem accounts for changes over time, including life transitions and increasing technology use. This framework supports the examination of factors influencing school-related sedentary behavior.

*Research Design*

This study employed a cross-sectional analytical design to examine the relationships among academic pressure, family habits, personality traits, and school-related sedentary behavior among senior high school students. This design allowed the assessment of multiple variables within a defined population at a single point in time without manipulation, making it appropriate for identifying associations and behavioral patterns (Thomas, 2023).

*Participants*

The study included 800 senior high school students aged 15 to 19 years (456 males and 344 females) enrolled in Grades 11 and 12 from public and private schools in Iligan City. Cluster random sampling was used to select participants. Of the total sample, 693 students were from private schools and 107 were from public schools.

*Instruments*

Academic pressure was measured using the Educational Stress Scale for Adolescents (ESSA), while personality traits were assessed using the Big Five Inventory-2 Short Form (BFI-2-S). Family habits and school-related sedentary behavior were measured using researcher-developed questionnaires. All instruments used a 4-point Likert scale. The researcher-developed tools underwent content validation by three field experts and pilot testing with 25 senior high school students. The Family Habits Questionnaire demonstrated strong internal consistency (Cronbach's alpha ≥ 0.90). The School-related Sedentary Behavior Questionnaire showed acceptable reliability ($\alpha \geq 0.70$), except for the in-class physical inactivity subscale ($\alpha = 0.60$), which indicates lower internal consistency.

*Data Collection*

Data were collected over one month. The researchers distributed questionnaires in printed format and through online platforms to ensure accessibility. Participants were given sufficient time to complete the instruments. Before participation, the researchers explained the purpose of the study and ensured voluntary participation.

*Data Analysis*

Descriptive statistics, including the mean and standard deviation, were used to summarize academic pressure, family habits, personality traits, and sedentary behavior. Kendall's Tau correlation test examined the relationships between variables. Collinearity diagnostics were conducted before regression analysis to ensure the absence of multicollinearity. Stepwise linear regression identified the strongest predictors of school-related sedentary behavior.

*Ethical Considerations*

Ethical clearance was obtained from the Ethics Review Committee of Adventist Medical Center College. Approval was also secured from the Department of Education and participating school administrators. Participants provided informed consent after receiving information about the study's purpose, procedures,

voluntary participation, and confidentiality. Data were handled in accordance with ethical standards for human research.

## 3 Results and Discussions

### *3.1 Academic Pressure of Senior High School Students*

Table 1 presents the results for academic pressure across five subscales. The data show that students "always" feel stressed when they fail to meet their academic standards, often experience self-doubt, and report sleep disturbances due to unmet goals. Regarding workload, students "always" report feeling overwhelmed by the amount of schoolwork, homework, and exams. In the despondency subscale, students "often" feel dissatisfied with their academic grades, "always" lack confidence in their scores, and struggle to concentrate during class. In the pressure from study subscale, students "often" feel academic stress related to concerns about future education and employment, parental expectations, daily study routines, and competition among classmates. Finally, in the worry about grades, students "always" believe that academic performance significantly impacts their future and feel pressure due to the fear of disappointing parents and teachers.

These findings are supported by previous studies showing that academic stress is widespread across educational levels. Approximately 87% of college students reported feeling overwhelmed by academic demands, with many experiencing anxiety and depression (Tandet, 2023). Similarly, high school students spend an average of 16.8 hours per week on homework, and 74% report that homework causes stress (Linder, 2021). These findings confirm that academic pressure is both prevalent and persistent. Such pressure may negatively affect students' well-being, impair concentration, and limit engagement in physical activities. As academic demands increase, students are more likely to prioritize sedentary academic tasks, thereby reinforcing inactivity and contributing to school-related sedentary behavior.

Table 1
Descriptive Statistics of Academic Pressure by Subscale

| Subscale | m ± SD | Interpretation |
|---|---|---|
| Self-expectations | 3.09 ± .70 | Always |
| Workload | 3.11 ± .70 | Always |
| Despondency | 2.97 ± .72 | Often |
| Pressure from the study | 2.86 ± .71 | Often |
| Worry about grades | 3.12 ± .74 | Always |

*Note: Scale: 0.99–1.00 (Never), 1.00–1.99 (Seldom), 2.00–2.99 (Often), 3.00–4.00 (Always)*

### *3.2 Family Habits of Senior High School Students*

Table 2 presents the results for family habits across four subscales. The data show that students "often" engage in passive screen-based activities with their families, such as watching TV shows, binge-watching series, and viewing YouTube videos before bed, frequently preferring screen time over outdoor play. In the digital gaming and social media subscale, students "often" play mobile games together, scroll through platforms like Facebook and TikTok instead of helping with chores, and browse social media during family relaxation. In the sedentary eating behaviors subscale, students "often" eat meals while watching television without interacting with family members, snack on junk food while using social media, and sometimes eat alone while binge-watching shows. Lastly, in the reading and listening activities subscale, students "often" spend extended periods reading e-books or comic books and listening to audiobooks or educational podcasts with their families after meals.

These findings are supported by previous studies indicating that family-related sedentary activities contribute to increased inactivity among adolescents. Activities such as watching television, gaming, and computer use are identified as low-energy behaviors that promote prolonged sitting, aligning with the

frequent engagement in screen-based entertainment observed in this study (Cabo et al., 2026). Similarly, research shows that 47.2% to 54% of children consume meals while using screens, supporting the observed sedentary mealtime behavior (Oliveira et al., 2024). Excessive screen time, particularly through mobile devices and social media, has also been identified as a major contributor to physical inactivity (Chen et al., 2022). In addition, adolescents commonly spend extended periods engaged in sedentary reading and listening activities such as e-books and podcasts (Fancourt et al., 2021). Increased use of phones and gaming has also been associated with reduced physical activity, with some adolescents spending over 11 hours per week watching television (Ssewanyana et al., 2018).

Table 2
Descriptive Statistics of Family Habits by Subscale

| Subscale | m ± SD | Interpretation |
|---|---|---|
| Sedentary Entertainment Viewing Habits | 2.52 ± .69 | Often |
| Sedentary Digital Gaming and Social Media Use | 2.51 ± .69 | Often |
| Sedentary Mealtime Behavior | 2.37 ± .72 | Often |
| Sedentary Reading and Listening Activities | 2.38 ± .78 | Often |

*Note: Scale: 0.99–1.00 (Never), 1.00–1.99 (Seldom), 2.00–2.99 (Often), 3.00–4.00 (Always)*

### *3.3 Personality Traits of Senior High School Students*

Table 3 presents the results for personality traits across five subscales. The data indicate that students "often" display high levels of extraversion, being outgoing, talkative, energetic, and showing strong leadership in social settings. In the agreeableness subscale, students "always" demonstrate kindness, politeness, warmth, compassion, and a tendency to assume the best in others. In the conscientiousness subscale, students ''often'' report being dependable, organized, persistent, and careful in completing tasks. In neuroticism, students "often" experience worry, emotional fluctuations, stress, and feelings of insecurity. Finally, in the open-mindedness subscale, students are "often" imaginative, thoughtful, creative, and receptive to new concepts and artistic ideas.

These findings are consistent with previous studies showing that adolescents commonly exhibit a range of personality traits that influence their behavior, development, and daily functioning. Research indicates that traits such as extraversion, conscientiousness, and openness contribute positively to identity formation, confidence, and academic engagement (Wang et al., 2023). In contrast, higher levels of neuroticism are associated with less effective coping strategies, including emotional distress and avoidance behaviors (Agbaria & Mokh, 2022). Personality traits are also closely linked to social, emotional, and behavioral outcomes, which affect adolescents' health, well-being, and success (Soto et al., 2024). Moreover, these traits undergo significant development during adolescence, during which behavioral patterns and personal characteristics are actively shaped (Cao & Ji, 2024). Conscientiousness has been identified as an important factor in academic performance and goal-oriented behavior (Weiss & Böhnisch, 2024).

Table 3
Descriptive Statistics of Personality Traits by Subscale

| Subscale | m ± SD | Interpretation |
|---|---|---|
| Extraversion | 2.71 ± .60 | Often |
| Agreeableness | 3.20 ± .55 | Always |
| Conscientiousness | 2.86 ± .59 | Often |
| Neuroticism | 2.95 ± .76 | Often |
| Open-mindedness | 2.97 ± .60 | Often |

*Note: Scale: 0.99–1.00 (Never), 1.00–1.99 (Seldom), 2.00–2.99 (Often), 3.00–4.00 (Always)*

### *3.4 School-Related Sedentary Behaviors of Senior High School Students*

Table 4 presents the results of school-related sedentary behavior across four subscales. The data indicate that students "often" remain physically inactive during class, engaging in prolonged sitting with minimal movement and passive postures throughout lessons. In the academic activities outside class subscale, students "often" stay seated for extended periods while studying for exams, reading textbooks, working on projects, and writing essays or reports. In the technology use for school tasks subscale, students "often" remain sedentary while typing essays on laptops, completing worksheets on tablets, browsing online resources on phones, coding on desktops, and reviewing presentations on digital devices. Lastly, in the sedentary behavior during school breaks and events subscale, students "often" stay seated during recess and assemblies, prefer sitting over socializing with peers, and avoid active participation in group or extracurricular activities.

These findings are consistent with previous studies indicating that adolescents engage in sedentary behavior in school through various forms, including classroom inactivity, prolonged academic tasks, technology use, and passive participation during breaks. Research shows that students spend approximately 63% of their school day in sedentary activities (Parrish et al., 2023). In addition, high school students spend an average of 16.8 hours per week on homework, reinforcing the tendency to remain seated for extended academic tasks outside the classroom (Linder, 2021). Sedentary behavior is further intensified by the use digital devices, as adolescents commonly spend significant time sitting while reading, using mobile phones, and engaging with other technologies (Paroi et al., 2022; Medeiros et al., 2024). Studies also report high levels of sedentary behavior during school breaks and recess, where students often remain inactive instead of engaging in physical activity (Silva et al., 2018). Moreover, prolonged sitting is prevalent across the entire school day, with students spending 8 to 11 hours in largely passive postures (Goo et al., 2023).

Table 4
Descriptive Statistics of School-related Sedentary Behavior by Subscale

| Subscale | m ± SD | Interpretation |
|---|---|---|
| In-class Physical Inactivity | 2.61 ± .53 | Often |
| Academic Sedentary Study Habits | 2.78 ± .60 | Often |
| Technology-Based Academic Sedentariness | 2.93 ± .67 | Often |
| Sedentary Pattern during Breaks and School Events | 2.55 ± .69 | Often |

*Note: Scale: 0.99–1.00 (Never), 1.00–1.99 (Seldom), 2.00–2.99 (Often), 3.00–4.00 (Always)*

*3.5 School-Related Sedentary Behavior's Relationship with Academic Pressure*

Table 5 shows that all subscales of academic pressure — including self-expectations, workload, despondency, pressure from study, and worry about grades have a direct and significant relationship with each subscale of school-related sedentary behavior, namely in-class physical inactivity, academic sedentary study habits, technology-based academic sedentariness, and sedentary patterns during school breaks and events. As academic pressure increases in any form, students tend to spend more time in sedentary school-related activities across various contexts. In every case, the analysis found sufficient statistical evidence to reject the null hypothesis, confirming that the associations, while weak, are consistent and significant across all variables measured.

These findings indicate a direct relationship between academic pressure and school-related sedentary behavior; however, existing literature provides limited direct evidence explaining this association, particularly for specific subcomponents of academic pressure. Nevertheless, available studies support the broader connection through psychological and behavioral pathways. Research shows that anxiety and depression, which relate to despondency, are associated with increased sedentary time and reduced emotional well-being among adolescents (Zhang et al., 2020). Similarly, individuals with higher levels of sedentary behavior tend to experience greater psychological distress, including anxiety and depressive symptoms (Uddin et al., 2020). Prolonged sedentary activities are also linked to stress and impaired emotional regulation across different contexts (Teychenne et al., 2019), while students exposed to extended school hours exhibit both high sedentary behavior and increased emotional dysregulation (Goo et al., 2023). In addition, higher screen time

and lower physical activity are associated with reduced concentration and lower academic performance, indicating a bidirectional relationship between academic strain and inactivity (Liangruenrom et al., 2023). However, some evidence suggests that mentally active sedentary behaviors, such as studying, may support academic achievement, highlighting a nuanced relationship (Cristi-Montero et al., 2023). Notably, variables such as self-expectation, worry about grades, and pressure from study emerged as significant predictors despite limited direct evidence in prior research. While these factors are known to influence stress and emotional outcomes, their specific role in shaping sedentary behavior remains underexplored. This gap suggests that the present findings contribute new evidence to this area.

Table 5
Kendall's Tau Correlation Between Academic Pressure and School-Related Sedentary Behavior

| | In-class Physical Inactivity | Academic Sedentary Study Habits | Technology-Based Academic Sedentariness | Sedentary Patterns during Breaks and School Events |
|---|---|---|---|---|
| Self -expectations | .06 (.01) | .18 (<.00) | .18 (<.00) | .10 (<.00) |
| Workload | .08 (.00) | .13 (<.00) | .10 (<.00) | .07 (.00) |
| Despondency | .16 (<.00) | .16 (<.00) | .14 (<.00) | .18 (<.00) |
| Pressure from the study | .16 (<.00) | .19 (<.00) | .18 (<.00) | .17 (<.00) |
| Worry about grades | .08 (.00) | .20 (<.00) | .20 (<.00) | .11 (<.00) |

*3.6 School-Related Sedentary Behavior's Relationship with Family Habits*

Table 6 shows that all subscales of family habits — including sedentary entertainment, digital gaming and social media use, sedentary mealtime behavior, and sedentary reading and listening activities — exhibit a direct and weakly significant relationship with the subscales of school-related sedentary behavior, such as in-class physical inactivity, academic sedentary study habits, technology-based academic sedentariness, and sedentary tendencies during school breaks and events. These findings suggest that higher levels of sedentary behavior within family routines are associated with increased sedentary engagement among students across multiple school-related settings. In all instances, the statistical analysis provided sufficient evidence to reject the null hypothesis, indicating that the relationships, though weak, are consistent and statistically significant across all variables.

These findings are consistent with previous studies indicating that family habits are directly associated with sedentary behavior among adolescents. Research shows that nearly half of adolescents (47.2% to 54%) consume meals while using screens, which is linked to the development of sedentary lifestyles (Oliveira et al., 2024). Family-based activities such as watching television, gaming, and computer use are identified as low-energy behaviors that promote prolonged sitting, reinforcing inactivity patterns (Cabo et al., 2026). Adolescents also spend a significant portion of their time engaged in sedentary reading and listening activities, such as e-books and podcasts, which further contribute to overall inactivity (Paroi et al., 2022; Fancourt et al., 2021). In addition, excessive screen time, particularly through mobile devices and social media, has been identified as a major contributor to reduced physical activity (Chen et al., 2022; Delfino et al., 2017). High levels of screen use within the family environment, including prolonged television viewing and gaming, are also associated with decreased physical activity (Ssewanyana et al., 2018). Additionally, family screen behaviors have been linked to both inactivity and distracted eating habits (Tsujiguchi, 2018).

Table 6

Kendall's Tau Correlation Between Family Habits and School-related Sedentary Behavior

| | In-class Physical Inactivity | Academic Sedentary Study Habits | Technology-Based Academic Sedentariness | Sedentary Patterns during Breaks and School Events |
|---|---|---|---|---|
| Sedentary Entertainment (Videos/Movies) | .21 (<.00) | .11 (<.00) | .14 (<.00) | .22 (<.00) |
| Digital Gaming and Social Media Use | .19 (<.00) | .10 (<.00) | .10 (<.00) | .20 (<.00) |
| Sedentary Eating Behavior | .22 (<.00) | .10 (<.00) | .10 (<.00) | .21 (<.00) |
| Sedentary Reading and Listening Activities | .19 (<.00) | .23 (<.00) | .14 (<.00) | .22 (<.00) |

*3.7 School-Related Sedentary Behavior's Relationship with Personality Traits*

Table 7 shows that all personality traits—namely extraversion, agreeableness, conscientiousness, neuroticism, and open-mindedness—are directly correlated with the different forms of school-related sedentary behavior, including in-class physical inactivity, academic sedentary study habits, technology-based academic sedentariness, and sedentary patterns during school breaks and events. The results suggest that students tend to show slightly elevated levels of sedentary behavior in academic settings as each personality trait increases in expression. Although these relationships are weak, they are statistically significant across all combinations of traits and behaviors examined. Consequently, the null hypothesis was rejected in every case, affirming the significance of the correlations.

These findings are consistent with previous studies indicating that personality traits influence adolescent behavior and overall functioning; however, direct evidence linking personality traits to school-related sedentary behavior remains limited in existing literature. Research shows that traits linked to the Big Five are associated with key outcomes such as health, well-being, and academic success (Soto et al., 2024), and that these traits undergo significant development during adolescence, shaping behavioral patterns (Cao & Ji, 2024). Traits such as extraversion and conscientiousness have been linked to identity formation, confidence, and academic engagement, while openness supports exploration and learning (Wang et al., 2023). In contrast, neuroticism is associated with less effective coping strategies, including avoidance and emotional distress (Agbaria & Mokh, 2022). While these studies confirm that personality traits influence behavior, the present findings identify conscientiousness, extraversion, open-mindedness, and agreeableness as emerging predictors of school-related sedentary behavior, given the limited empirical evidence linking these traits specifically to sedentary patterns in school contexts. This suggests that although personality traits are associated with broader behavioral tendencies, their specific role in shaping sedentary behavior requires further investigation.

Table 7
Kendall's Tau Correlation Between Personality Traits and School-related Sedentary Behavior

| | In-class Physical Inactivity | Academic Sedentary Study Habits | Technology-Based Academic Sedentariness | Sedentary Patterns during Breaks and School Events |
|---|---|---|---|---|
| Extraversion | .10 (<.00) | .13 (<.00) | .06 (.01) | .06 (.01) |
| Agreeableness | .07 (.00) | .18 (<.00) | .18 (.00) | .05 (.02) |
| Conscientiousness | .13 (<.00) | .25 (<.00) | .17 (<.00) | .15 (<.00) |
| Neuroticism | .11 (<.00) | .14 (<.00) | .12 (<.00) | .15 (<.00) |
| Open-mindedness | .07 (.00) | .21 (<.00) | .17 (<.00) | .07 (.00) |

*3.8 Predictors of School-Related Sedentary Behavior by Subscales*

*Predictors of In-class Physical Inactivity*

Table 8 shows the predictors of the first subscale, in-class physical inactivity. The predictors include sedentary mealtime behavior, sedentary entertainment viewing, despondency, sedentary reading and listening, conscientiousness, and sedentary digital gaming and social media use. This regression model explains 18% of the variance in in-class physical inactivity, meaning these predictors collectively account for a meaningful proportion of the variation in students' physical inactivity during class. Statistically, the beta coefficients for all predictors are positive and significant, indicating a direct relationship: as levels of these behaviors or traits increase, physical inactivity during class increases as well.

These findings are consistent with previous studies indicating that both behavioral and psychological factors predict in-class physical inactivity. Sedentary mealtime behavior has been linked to unhealthy habits and increased inactivity, as nearly half of adolescents eat while using screens (Oliveira et al., 2024). Similarly, sedentary entertainment activities such as watching television, gaming, and computer use are identified as low-energy behaviors that promote prolonged sitting (Cabo et al., 2026). Psychological distress, particularly anxiety and depression, has also been associated with increased sedentary time, supporting the role of despondency as a predictor (Zhang et al., 2020). In addition, adolescents spend substantial time engaged in sedentary reading and listening activities, such as e-books and podcasts, which contribute to overall inactivity (Paroi et al., 2022; Fancourt et al., 2021). Excessive screen time, especially through mobile use and digital gaming, further reinforces sedentary behavior (Chen et al., 2022; Delfino et al., 2017). Notably, conscientiousness emerged as a predictor in this study; however, its direct link to in-class physical inactivity remains limited in existing literature, suggesting that it is an emerging factor that requires further investigation.

Table 8
Predictors of In-class Physical Inactivity

| Predictors | B (Unstandardized) | Beta (Standardized) | t | p value | Interpretation |
|---|---|---|---|---|---|
| (Constant) | | | | | |
| Sedentary Mealtime behavior | .10 | .14 | .64 | .00 | Highly significant |
| Sedentary Entertainment Viewing Habits. | .08 | .11 | .72 | .00 | Highly significant |
| Despondency. | .10 | .13 | .96 | .00 | Highly significant |
| Sedentary Reading and Listening Activities. | .07 | .10 | .78 | .00 | Highly significant |
| Conscientiousness. | .08 | .09 | .92 | .00 | Highly significant |
| Sedentary Digital Gaming and Social Media Use | .08 | .10 | .66 | .00 | Highly significant |
| $R^2$ = 18% | | | | | |

*Predictors of Academic Sedentary Habits*

Table 9 presents the predictors of academic sedentary habits. Conscientiousness, sedentary reading and listening activities, worry about grades, open-mindedness, and self-expectation emerged as the best predictors. This model explains 23% of the variance in sedentary study behavior outside the classroom, indicating that these factors account for a substantial proportion of students' sedentary study habits. The positive and significant beta coefficients indicate that academic sedentary habits increase as these predictors increase.

These findings are partially consistent with previous studies, particularly regarding sedentary reading and listening activities, which have been shown to occupy a significant portion of adolescents' daily routines through tasks such as reading e-books and listening to educational content, contributing to prolonged sitting

during study periods (Paroi et al., 2022; Fancourt et al., 2021). However, several predictors identified in this study—namely conscientiousness, worry about grades, open-mindedness, and self-expectation—are considered emerging variables, as current literature lacks direct evidence linking them specifically to academic sedentary behavior. Existing studies associate these factors with psychological and academic outcomes, such as stress, self-esteem, and academic motivation. For instance, self-expectation has been linked to internalized pressure and reduced boundary-setting, while worry about grades is associated with fear of disappointing others and increased emotional distress (Sumicad et al., 2023; Ahmad et al., 2023). Despite these established connections, their direct influence on sedentary study habits has not been clearly documented. Therefore, the present findings extend existing literature by identifying these variables as significant predictors of academic sedentary behavior, suggesting that academic-related psychological factors may also shape patterns of prolonged inactivity among students.

Table 9
Predictors of Academic Sedentary Habits

| Predictors | B (Unstandardized) | Beta (Standardized) | t | p value | Interpretation |
|---|---|---|---|---|---|
| (Constant) | | | | | |
| Conscientiousness | .21 | .21 | .80 | .00 | Highly significant |
| Sedentary Reading and Listening Activities. | .16 | .20 | .90 | .00 | Highly significant |
| Worry about grades. | .11 | .13 | .67 | .00 | Highly significant |
| Open-mindedness | .09 | .09 | .78 | .00 | Highly significant |
| Self-expectation | .08 | .09 | .66 | .01 | Highly significant |
| $R^2$ = 23% | | | | | |

*Predictors of Technology-Based Academic Sedentariness*

Table 10 shows the predictors of technology-based academic sedentariness. The best predictors include self-expectations, agreeableness, sedentary reading and listening activities, open-mindedness, sedentary digital gaming and social media use, and pressure from study. This model accounts for 14% of the variance, indicating that these factors explain a meaningful proportion of students' time spent sitting while using digital tools for academic tasks. The beta coefficients are all positive and statistically significant, demonstrating that higher levels of these predictors are associated with increased technology-based academic sedentary behavior.

These findings indicate that technology-based academic sedentariness is influenced by both behavioral and psychological factors; however, several identified predictors remain underexplored in existing literature. The results are consistent with studies showing that adolescents spend a significant portion of their daily routines sitting or lying down while engaging in tasks such as reading e-books and listening to podcasts, which directly contribute to prolonged sedentary time during academic activities (Paroi et al., 2022). Similarly, adolescents engage in both mentally active and passive sedentary behaviors for extended periods, reinforcing inactivity patterns during school-related tasks (Fancourt et al., 2021). Excessive screen exposure, particularly through mobile phones, tablets, and social media use, has been identified as a primary contributor to prolonged sitting and overall physical inactivity among students (Chen et al., 2022). Additionally, frequent engagement in digital gaming and device use further reduces opportunities for movement (Delfino et al., 2017). Increased phone use and gaming have also been linked to significant reductions in physical activity, with adolescents developing habitual sedentary routines (Ssewanyana et al., 2018). However, a nuanced perspective is presented by evidence showing that mentally active sedentary behaviors, such as using technology for studying, are positively associated with cognitive and academic achievement, suggesting that not all sedentary behaviors produce negative outcomes (Cristi-Montero et al., 2023). Notably, self-expectations, agreeableness, open-mindedness, and pressure from study emerged as significant predictors in this study despite limited direct evidence linking them to technology-based sedentary behavior. Existing literature shows that self-expectation is associated with internalized pressure that negatively affects self-

esteem and boundary-setting (Sumicad et al., 2023), while worry about academic expectations is linked to depression, low self-esteem, and high levels of exam-related anxiety, with up to 81.6% of students reporting such experiences (Ahmad et al., 2023). Academic pressure has also been associated with physiological consequences, including sleep disorders affecting 76% of stressed individuals and chronic headaches in 70% of cases (Li et al., 2023), as well as stress originating from family expectations affecting 68% of students (Jindal et al., 2022). In terms of personality, traits such as conscientiousness and extraversion have been shown to support academic identity and confidence, while open-mindedness promotes exploration and engagement in learning (Wang et al., 2023). Additionally, personality-related social, emotional, and behavioral skills are strong predictors of adolescent health, well-being, and success (Soto et al., 2024). Despite these established associations, current literature does not clearly explain how these psychological and personality factors directly lead to increased sedentary behavior in academic technology use. Therefore, the present findings extend existing knowledge by identifying these variables as emerging predictors, suggesting that internal psychological factors and personality traits may play a significant role in shaping technology-based sedentary patterns among students.

Table 10
Predictors of Technology-based Academic Sedentariness

| Predictors | B (Unstandardized) | Beta (Standardized) | t | p value | Interpretation |
|---|---|---|---|---|---|
| (Constant) | | | | | |
| Self-expectations | .11 | .12 | .64 | .00 | Highly significant |
| Agreeableness | .18 | .15 | .88 | .00 | Highly significant |
| Sedentary Reading and Listening activities. | .09 | .10 | .87 | .00 | Highly significant |
| Open-mindedness | .10 | .09 | .82 | .00 | Highly significant |
| Sedentary Digital Gaming and Social Media Use | .07 | .07 | .92 | .02 | Highly significant |
| Pressure from Study | .08 | .09 | .66 | .02 | Highly significant |
| $R^2$ = 14% | | | | | |

*Predictors of Sedentary Patterns During Breaks and School Events*

Table 11 presents the predictors of sedentary behavior during breaks and school events. The best predictors include sedentary reading and listening activities, despondency, sedentary mealtime behavior, conscientiousness, sedentary entertainment viewing habits, extraversion, and sedentary digital gaming and social media use. This model explains 21% of the variance, indicating that these variables collectively account for a notable proportion of students' sedentary patterns outside formal class time. Most predictors show a positive and significant beta coefficient, meaning that as these behaviors or traits increase, sedentary patterns during breaks and events also increase. However, extraversion has a significant negative beta coefficient, indicating an inverse relationship, such that students with higher extraversion tend to have lower sedentary behavior during breaks and events.

These findings are consistent with previous studies indicating that sedentary behavior during breaks and school events is influenced by both habitual activities and psychological factors. Adolescents spend a substantial portion of their time engaged in sedentary reading and listening activities, such as reading or listening to music, which contribute to inactivity even during non-instructional periods (Paroi et al., 2022). Similar patterns have been observed where adolescents engage in both passive and mentally active sedentary tasks for extended durations (Fancourt et al., 2021). Psychological distress, including anxiety and depression, has also been linked to increased sedentary time, supporting the role of despondency as a predictor of inactivity during breaks (Zhang et al., 2020). In addition, nearly half of adolescents (47.2% to 54%) consume meals while using screens, reinforcing sedentary routines that may extend into school settings (Oliveira et al., 2024). Sedentary entertainment behaviors, such as watching television, gaming, and computer use, are

identified as low-energy activities that promote prolonged sitting (Cabo et al., 2026). Additionally, excessive screen time through mobile devices and social media significantly contributes to reduced physical activity (Chen et al., 2022; Delfino et al., 2017). Notably, conscientiousness and extraversion emerged as significant predictors, although direct evidence linking these traits to sedentary behavior during school breaks remains limited. Conscientiousness is associated with being organized, goal-oriented, and academically driven, which may lead students to engage in structured but sedentary activities even during free time (Wang et al., 2023). In contrast, extraversion showed a negative relationship, suggesting that more sociable and active students are less likely to remain sedentary during breaks. This aligns with evidence linking social and emotional traits to better health and activity outcomes (Soto et al., 2024). Despite these associations, the role of personality traits in shaping sedentary behavior during non-class periods remains underexplored, indicating that the present findings contribute new insights into how both behavioral habits and individual differences influence sedentary patterns in school environments.

Table 11
Predictors of Sedentary Patterns During Breaks and School Events

| Predictors | B (Unstandardized) | Beta (Standardized) | t | p value | Interpretation |
|---|---|---|---|---|---|
| (Constant) | | | | | |
| Sedentary Reading and Listening Activities | .13 | .14 | .78 | .00 | Highly significant |
| Despondency | .17 | .18 | .96 | .00 | Highly significant |
| Sedentary Mealtime Behavior | .12 | .13 | .64 | .00 | Highly significant |
| Conscientiousness | .18 | .16 | .78 | .00 | Highly significant |
| Sedentary Entertainment Viewing Habits | .11 | .11 | .71 | .00 | Highly significant |
| Extraversion | -.12 | -.10 | .78 | .00 | Highly significant |
| Sedentary Digital Gaming and Social Media Use. | .09 | .09 | .66 | .01 | Highly significant |
| $R^2$ = 21% | | | | | |

## 4 Conclusion

This study examined how academic pressure, family habits, and personality traits relate to school-related sedentary behavior among senior high school students. The findings provide clear evidence that sedentary behavior is not a single-dimensional outcome, but a multifactorial pattern shaped by interacting academic, familial, and individual influences. Consistent with the study objectives, results showed that students experience high academic pressure and frequently engage in sedentary family routines, while also exhibiting personality traits that meaningfully relate to their behavioral tendencies. Sedentary behavior was found to be pervasive across all school contexts, including classroom instruction, independent study, technology-based tasks, and even non-instructional periods such as breaks, confirming that inactivity is embedded within both structured and unstructured aspects of the school environment.

The relationships identified were statistically significant and consistent across all subscales, indicating stable and meaningful patterns. The study advances current knowledge by identifying not only established contributors such as screen-based habits and psychological distress, but also emerging predictors including self-expectation, worry about grades, pressure from study, conscientiousness, agreeableness, and open-mindedness. Although prior literature has linked these factors to stress, motivation, and developmental outcomes, their direct association with school-related sedentary behavior has been insufficiently examined. These findings extend the literature by demonstrating that these psychological and personality-related variables may play a significant role in shaping sedentary patterns in academic contexts.

From a theoretical perspective, the results support an ecological understanding of adolescent behavior, where sedentary patterns arise from the interaction of environmental contexts and individual characteristics.

Practically, the findings highlight the limitations of interventions that focus solely on increasing physical activity without addressing academic structures, family routines, and student-level differences. Effective strategies should incorporate curriculum design that reduces prolonged sitting, family-based behavioral modifications, and student-centered approaches that account for motivation, stress, and personality.

Future research should build on these findings by employing longitudinal and experimental designs to establish causal pathways and examine how these factors interact over time. There is also a need to further investigate the emerging predictors identified in this study, particularly their mechanisms of influence on sedentary behavior in school settings. Expanding research across diverse populations and educational systems will strengthen generalizability and inform more context-specific interventions. Overall, this study provides a comprehensive and integrative understanding of school-related sedentary behavior and offers a strong foundation for advancing both research and practice in adolescent health and education.

*Acknowledgments*

We are grateful to two anonymous reviewers for their valuable comments on the earlier version of this paper.

## References

Abonie, U. S., & Ackah, M. (2024). Prevalence and disparities in adolescents' sedentary behavior from twenty-three African countries: Evidence from World Health Organization Global School-based Student Health Survey. *Public health*, *231*, 124-132. https://doi.org/10.1016/j.puhe.2024.03.025

Agbaria, Q., & Mokh, A. A. (2022). Coping with stress during the coronavirus outbreak: The contribution of big five personality traits and social support. *International journal of mental health and addiction*, *20*(3), 1854-1872.

Ahmad, N., Sahrudin, N. F., Hamdan, H. S., Zakaria, W. P. N. I., Rozaki, N. J., Soffian, N. S. H. M., & Karima, N. I. (2023). Exploring parental pressure on academic performance among adolescents. *International Journal of Academic Research in Business and Social Sciences*, *13*(3), 571.

Alalawi, A., Blank, L., & Goyder, E. (2024). Umbrella review of international evidence for the effectiveness of school-based physical activity interventions. *PloS one*, *19*(6), e0304513.

Alalawi, A., Blank, L., & Goyder, E. (2024). Umbrella review of international evidence for the effectiveness of school-based physical activity interventions. *PloS one*, *19*(6), e0304513.

Oliveira, G. A. L., Santos Gonçalves, V. S., Nakano, E. Y., & Toral, N. (2024). Consumption of ultra-processed foods and low dietary diversity are associated with sedentary and unhealthy eating behaviors: A nationwide study with Brazilian Schoolchildren. *PloS one*, *19*(1), e0294871.

Contardo Ayala, A. M., Parker, K., Mazzoli, E., Lander, N., Ridgers, N. D., Timperio, A., ... & Salmon, J. (2024). Effectiveness of intervention strategies to increase adolescents' physical activity and reduce sedentary time in secondary school settings, including factors related to implementation: a systematic review and meta-analysis. *Sports medicine-open*, *10*(1), 25.

Buckingham, S. A., Williams, A. J., Morrissey, K., Price, L., & Harrison, J. (2019). Mobile health interventions to promote physical activity and reduce sedentary behaviour in the workplace: a systematic review. *Digital health*, *5*, 2055207619839883.

Cabo, C. A., Hernández-Beltrán, V., Gamonales, J. M., Parraca, J. A., Fernandes, O., & Espada, M. C. (2026). Evolution of research related to how a sedentary lifestyle influences the aging process: a bibliometric review. *Journal of Public Health*, *34*(4), 919-937.

Cagas, J. Y., Mallari, M. F. T., Torre, B. A., Kang, M. G. D., Palad, Y. Y., Guisihan, R. M., ... & Capio, C. M. (2022). Results from the Philippines' 2022 report card on physical activity for children and adolescents. *Journal of Exercise Science & Fitness*, *20*(4), 382-390. https://doi.org/10.1016/j.jesf.2022.10.001

Calella, P., Di Dio, M., Pelullo, C. P., Di Giuseppe, G., Liguori, F., Paduano, G., ... & Gallè, F. (2024). Sedentary behaviors and eating habits in active and inactive individuals: a cross-sectional study in a population from southern Italy. *Behavioral Sciences*, *14*(3), 208.

Cao, X., & Ji, S. (2024). Bidirectional relationship between self-rated health and the big five personality traits among Chinese adolescents: a two-wave cross-lagged study. *Humanities and Social Sciences Communications*, *11*(1), 1-11.

Chen, S., Clark, C. C., & Ren, Z. (2022). Different types of screen-based sedentary time and anxiety in adolescents: Video games may be more important. *Frontiers in public health*, *10*, 918234.

Cristi-Montero, C., Hernandez-Jaña, S., Zavala-Crichton, J. P., Tremblay, M. S., Ortega, F. B., Feter, N., ... & Gaya, A. (2023). Mentally active but not inactive sedentary behaviors are positively related to adolescents' cognitive-academic achievements, a cross-sectional study—The Cogni-Action Project. *Mental Health and Physical Activity*, *25*, 100561. https://doi.org/10.1016/j.mhpa.2023.100561

Delfino, L. D., dos Santos Silva, D. A., Tebar, W. R., Zanuto, E. F., Codogno, J. S., Fernandes, R. A., & Christofaro, D. G. (2017). Screen time by different devices in adolescents: association with physical inactivity domains and eating habits. *The Journal of sports medicine and physical fitness*, *58*(3), 318-325.

Fancourt, D., Aughterson, H., Finn, S., Walker, E., & Steptoe, A. (2021). How leisure activities affect health: a narrative review and multi-level theoretical framework of mechanisms of action. *The Lancet Psychiatry*, *8*(4), 329-339.

Goo, S. Y., Lee, T. H., Lim, H., Lee, E. Y., Kim, J. Y., & Jeon, J. Y. (2023). Associations between different types of sedentary behavior and mental health: gender-stratified analyses among 97,171 South Korean adolescents. *Mental Health and Physical Activity*, *25*, 100539. https://doi.org/10.1016/j.mhpa.2023.100539

Herreros-Irarrázabal, D., González-López, M. F., Nuche-Salgado, R., de Souza-Lima, J., & Mahecha-Matsudo, S. (2024). Physical activity levels and sedentary behaviour according to sex, age, BMI, academic year, and country among medical students in Latin America. *BMC Public Health*, *24*(1), 1699.

Jiang, L., Cao, Y., Ni, S., Chen, X., Shen, M., Lv, H., & Hu, J. (2020). Association of sedentary behavior with anxiety, depression, and suicide ideation in college students. *Frontiers in psychiatry*, *11*, 566098.

Jindal, M., Gupta, D., & Soni, R. (2022). Parental pressure and academic stress as perceived by adolescents. *International Journal of Multidisciplinary and Current Educational Research (IJMCER)*, *4*(3), 72-78.

Kracht, C. L., Beyl, R. A., Maher, J. P., Katzmarzyk, P. T., & Staiano, A. E. (2021). Adolescents' sedentary time, affect, and contextual factors: An ecological momentary assessment study. *International Journal of Behavioral Nutrition and Physical Activity*, *18*(1), 53.

Li, T. X., Lin, T. T., Eng, T. L., Xin, T. H., & Wardhani, S. T. K. (2023). The influence of academic stress on academic performance among university students. *Asian Pacific Journal of Management and Education*, *6*(3), 129-138.

Liangruenrom, N., Dumuid, D., & Pedisic, Z. (2023). Physical activity, sedentary behaviour, and sleep in the Thai population: A compositional data analysis including 135,824 participants from two national time-use surveys. *Plos one*, *18*(1), e0280957.

Linder J. (2021). The Consequences of Academic Pressure on Students' Mental Health. wwwtransformationsnetworkcom. Retrieved from https://www.transformationsnetwork. com/post/the-consequences-of-academic-pressure-on-students-mental-health.

Marijančić, V., Grubić Kezele, T., Peharec, S., Dragaš-Zubalj, N., Pavičić Žeželj, S., & Starčević-Klasan, G. (2023). Relationship between physical activity and sedentary behavior, spinal curvatures, endurance and balance of the trunk muscles-extended physical health analysis in young adults. *International journal of environmental research and public health*, *20*(20), 6938.

Medeiros, M. L., da Costa, A. D., Vieira, C. J., Silva, P. H., Santos, D. A., & Vitalle, M. S. S. (2025). Sedentary behavior and self-harm in adolescents with asthma, rhinitis and eczema. *Jornal de Pediatria*, *101*(2), 202-208. https://doi.org/10.1016/j.jped.2024.08.003

Park, H., & Lee, K. S. (2020). The association of family structure with health behavior, mental health, and perceived academic achievement among adolescents: a 2018 Korean nationally representative survey. *BMC public health*, *20*(1), 510.

Paroi, S., Hasanat, M. A., & Roy, B. K. (2022). Study on the sedentary lifestyle of adolescents in Khulna city. *Mediscope*, *9*(2), 68-74.

Parrish, A. M., Okely, A. D., Salmon, J., Trost, S., Hammersley, M., & Murdoch, A. (2023). Making 'being less sedentary feel normal'–investigating ways to reduce adolescent sedentary behaviour at school: A qualitative study. *International Journal of Behavioral Nutrition and Physical Activity*, *20*(1), 85.

Silva, A. F. D., Martins, P. C., Gonçalves, E. C. D. A., Farias, J. M. D., & Silva, D. A. S. (2018). Prevalence and factors associated with sedentary behavior in the school recess among adolescents. *Motriz: Revista de Educação Física*, *24*(4), e101834.

Soto, C. J., Napolitano, C. M., Sewell, M. N., Yoon, H. J., & Roberts, B. W. (2024). Going beyond traits: Social, emotional, and behavioral skills matter for adolescents' success. *Social Psychological and Personality Science*, *15*(1), 33-45.

Ssewanyana, D., Abubakar, A., Van Baar, A., Mwangala, P. N., & Newton, C. R. (2018). Perspectives on underlying factors for unhealthy diet and sedentary lifestyle of adolescents at a Kenyan coastal setting. *Frontiers in Public Health*, *6*, 11.

Sumicad, R., Jumalon, B. Z., Hernando, M. J. C., Mondigo, M. M. P., Honoridez, F. N. T., & Gabuya, R. M. B. (2023). Surface pressure: Lived experiences of eldest siblings who are employed college students. *Journal of Gender, Culture and Society*, *3*(2), 31-54.

Tandet, J. (2023). Improving Student Mental Health within Higher Education. Moderncampus.com. Retrieved from https://moderncampus.com/blog/student-mental-health.htm

Teychenne, M., Stephens, L. D., Costigan, S. A., Olstad, D. L., Stubbs, B., & Turner, A. I. (2019). The association between sedentary behaviour and indicators of stress: a systematic review. *BMC public health*, *19*(1), 1357.

Thomas, L. (2023). Cross-Sectional study | definitions, uses & examples. Scribbr. Retrieved from https://www.scribbr.com/methodology/cross-sectional-study/

Tsujiguchi, H., Hori, D., Kambayashi, Y., Hamagishi, T., Asakura, H., Mitoma, J., ... & Nakamura, H. (2018). Relationship between screen time and nutrient intake in Japanese children and adolescents: a cross-sectional observational study. *Environmental health and preventive medicine*, *23*(1), 34.

Uddin, R., Burton, N. W., & Khan, A. (2020). Combined effects of physical inactivity and sedentary behaviour on psychological distress among university-based young adults: a one-year prospective study. *Psychiatric Quarterly*, *91*(1), 191-202.

Wang, H., Liu, Y., Wang, Z., & Wang, T. (2023). The influences of the Big Five personality traits on academic achievements: Chain mediating effect based on major identity and self-efficacy. *Frontiers in psychology*, *14*, 1065554.

Wang, Y., Xie, Y., Chen, Y., Ding, G., & Zhang, Y. (2024). Joint association of sedentary behavior and physical activity with pulmonary function. *BMC Public Health*, *24*(1), 604.

Weiss, S., & Böhnisch, M. (2024). Conscientiousness, students' goal orientation, and reasoning ability: Significance for educational standards. *Journal of Intelligence*, *12*(1), 11.

World Health Organization (WHO). (2024). *Physical Activity*. World Health Organization. https://www.who.int/health-topics/physical-activity#tab=tab_1

World Health Organization. (2022). The Global Status Report on Physical Activity 2022. Www.who.int. https://www.who.int/teams/health-promotion/physical-activity/global-status-report-on-physical-activity-2022

World Health Organization. (2022). The Global Status Report on Physical Activity 2022. Www.who.int. Retrieved from https://www.who.int/teams/health-promotion/physical-activity/global-status-report-on-physical-activity-2022

Zhang, T., Lu, G., & Wu, X. Y. (2020). Associations between physical activity, sedentary behaviour and self-rated health among the general population of children and adolescents: a systematic review and meta-analysis. *BMC public health*, *20*(1), 1343.

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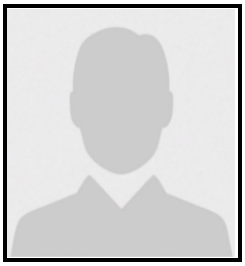

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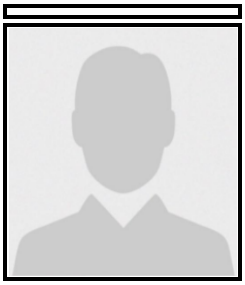

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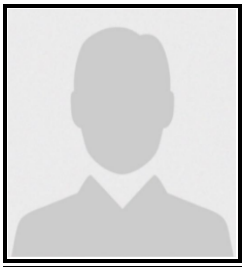

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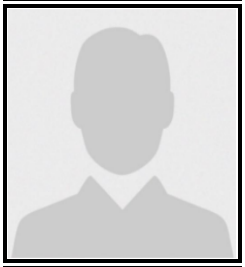

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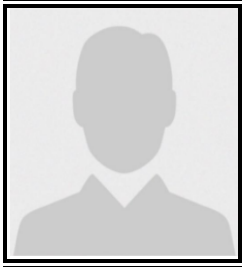

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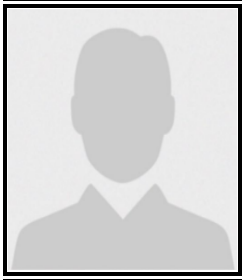
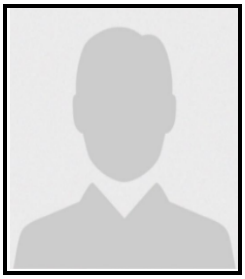
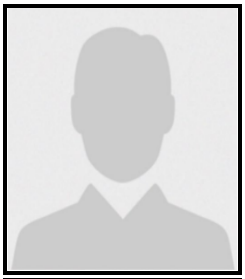
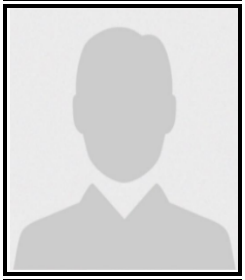
|  | **Myccah Andrea L. Adamat**<br>Adventist Medical Center College, Iligan City, Lanao Del Norte, Philippines<br>*Email: adamat.myccahandrea@amcc.edu.ph* |
|  | **Joneighbel B. Bulahan**<br>Adventist Medical Center College, Iligan City, Lanao Del Norte, Philippines<br>*Email: bulahan.joneighbel@amcc.edu.ph* |
|  | **Junalyn F. Abejar**<br>Adventist Medical Center College, Iligan City, Lanao Del Norte, Philippines<br>*Email: abejar.junalyn@amcc.edu.ph* |
|  | **Carl Patrick P. Antiporta**<br>Adventist Medical Center College, Iligan City, Lanao Del Norte, Philippines<br>*Email: antiporta.carlptrick@amcc.edu.ph* |