

Exploring the Relationship between Time Management Practices Using Digital Planners and Perceived Stress among Grade 10 Students

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ABSTRACT

Grade 10 students face increasing academic demands that contribute to elevated stress, yet most are digital natives whose organizational habits no longer rely on paper planners. Digital planners embed goal-setting features that may support resilience, but their relationship to perceived stress among young Filipino adolescents remains underexplored. This study examined the relationship between time management practices using digital planners and perceived stress among Grade 10 students at Placido L. Señor National High School in the City of Naga, Cebu, Philippines.

A quantitative-correlational design was employed with the entire Grade 10 population ($N = 268$) through a census approach. Data were collected using the Perceived Stress Scale (PSS-10) and the researcher-developed Digital Planner-Driven Goal Setting Survey (DPDGSS), grounded in Locke and Latham's Goal Setting Theory. Descriptive statistics, tests of normality, and Spearman's rank-order correlation were used to analyze the data.

Results showed that most respondents experienced moderate (63.8%) to high (32.1%) perceived stress, while only 4.1% reported low stress. The majority (90.3%) were classified as high digital-planner users. Spearman's correlation revealed a statistically significant but weak positive relationship between digital planner usage and perceived stress ($\rho = .155$, $p = .011$), leading to rejection of the null hypothesis.

The findings support the Transnational Model of Stress and Coping and Goal Setting Theory, suggesting that digital planners function as a supportive coping tool that helps students manage organizational demands but is insufficient on its own to substantially lower stress unless paired with emotion-focused regulation strategies.

KEYWORDS: time management, digital planners, perceived stress, goal setting theory, Grade 10 students, correlational research

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1. INTRODUCTION

Grade 10 students at Placido L. Señor National High School in the City of Naga, Cebu, face increasing academic demands — workloads, deadlines, examinations, and pressures related to their future — that contribute to elevated perceived stress. Sound time management is essential to sustaining academic achievement and mental health, yet the traditional paper-planner approach may no longer resonate with digital-native students who have grown up relying on technology to organize their lives. Digital planners offer a mobile, accessible alternative that allows students to set goals, track tasks, and monitor progress, aligning with students' digital habits while encouraging independence and self-regulation. Although their use is widespread, the relationship between digital planning practices and perceived stress remains poorly studied, particularly among Filipino high school students.

Recent literature links effective time management to reduced academic stress and improved performance among adolescents (Santos et al., 2022). Goal setting, a core feature of digital planners, enhances motivation and task completion through visual tracking and milestone monitoring (Maslava, 2024), while organized digital planning has been associated with reduced stress and greater academic satisfaction (Hsu et al., 2023; Galindo-Dominguez et al., 2021). In the Philippine context, however, most research on digital tools emphasizes instruction rather than personal organization or stress management (Samortin et al., 2022), leaving a gap that this study addresses.

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Existing studies on digital planning and stress have largely focused on university populations (Wong & Lai, 2025; Galindo-Dominguez et al., 2021; Caparos et al., 2025), with limited attention to Grade 10 adolescents or to theory-driven instruments grounded in Goal Setting Theory. Reviews further note inconsistent evaluation of stress outcomes associated with digital planning (Martins van Jaarsveld et al., 2025; Mendoza et al., 2023), and the post-pandemic shift toward digital learning has intensified the need for technology-based interventions suited to secondary students' cognitive and emotional needs (Brillo et al., 2024; Hsu et al., 2023). This study addresses these gaps by empirically examining how time management practices using digital planners related to perceived stress among Grade 10 students.

Theoretical Framework

This study draws on two complementary frameworks. The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) explains stress as arising from an individual's appraisal of a situation — primary appraisal (threat versus challenge), secondary appraisal (evaluation of coping resources), and the resulting coping response — rather than from the stressor itself. Goal Setting Theory (Locke & Latham, 1990) holds that specific, challenging goals supported by commitment and feedback improve performance and motivation; digital planners operationalize these principles by helping students define clear goals, break down tasks, remain committed, and receive feedback on progress. Together, these frameworks informed the design of the study's instruments and guided the interpretation of how digital planning behaviors related to students' stress appraisal and coping.

Statement of the Problem

This study examined the relationship between time management practices using digital planners and perceived stress among Grade 10 students at Palacio L. Señor National High School. Specifically, it sought to answer: (1) What is the level of perceived stress of the respondents as assessed through the PSS-10? (2) What is the level of their time management practices using digital planners, as assessed through a Goal Setting Theory-based survey? (3) Is there a significant relationship between time management practices using digital planners and perceived stress levels? and (4) What recommendations can be drawn to improve time management practices, particularly digital planner use, to help lower perceived stress?

H₀: There is no significant relationship between the level of time management practices using digital planners and the perceived stress levels of Grade 10 students.

H_a: There is a significant relationship between the level of time management practices using digital planners and the perceived stress levels of Grade 10 students.

2. METHODOLOGY

Research Design

This study used a quantitative-correlational design, appropriate for examining the relationship between time management practices using digital planners and perceived stress without manipulating either variable (Abdul Latif et al., 2020; Wubante, 2020). Structured survey instruments were used to assess students' perceived stress and digital planning behavior, and the strength and direction of association between the two variables were analyzed using Spearman's rank-order correlation.

Research Locale and Respondents

The study was conducted at Placido L. Señor National High School in the City of Naga, Cebu, Philippines. The population consisted of all 268 Grade 10 students enrolled across seven sections during School Year 2025-2026. A census approach was used, including the entire population to ensure complete representation and to remove sampling bias. Eligible respondents were officially enrolled Grade 10 students aged 15 to 17 who could comprehend the English-language survey and who voluntarily provided informed consent, with parental consent secured where required.

Research Instruments

Two instruments were used. The Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Memelstein, 1983) is a widely validated 10-item self-report measure of the degree to which situations in one's life are appraised as stressful, rated from 0 (Never) to 4 (Very Often) and yielding scores from 0-40, categorized as low (0-13), moderate (14-26), or high (27-40) perceived stress. The scale has demonstrated strong construct validity and internal consistency in prior research (Lee, 2012; Ray, 2024).

The researcher-developed Digital Planner-Driven Goal Setting Survey (DPDGSS) measured time management practices using digital planners across four Goal Setting Theory constructs — goal specificity, goal difficulty, goal commitment, and feedback — using a 5-point scale (1 = Strongly Disagree to 5 = Strongly Agree). Composite scores were categorized as low (0-60), moderate (61-120), or high (121-180) digital planner usage. Content validity was established through alignment with Goal Setting Theory and review by the research adviser and a panel of experts. Pilot testing yielded acceptable to good internal consistency: goal specificity ($\alpha = .859$), goal difficulty ($\alpha = .82$), and feedback ($\alpha = .892$).

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Data Gathering Procedure

Following instrument development and adviser review, the questionnaire was revised, presented to an oral defense panel, and pilot-tested. Formal approval was secured from the Schools Division Superintendent and the school principal. Respondents and their parents/guardians were briefed on the study's purpose and their rights, after which informed consent was obtained. Both instruments were administered together in a face-to-face, proctored setting within designated classrooms over a three-week period, after which responses were encoded, analyzed, and interpreted.

Statistical Treatment

Descriptive statistics (frequency, percentage, mean, and standard deviation) summarized the distribution of perceived stress and digital planner usage scores. The Shapiro-Wilk and Kolmogorov-Smirnov tests assessed normality of the data; because both indicated non-normal distributions, Spearman's rank-order correlation coefficient was used, rather than Person's r , to test the relationship between digital planner usage and perceived stress at the .05 level of significance.

Ethical Considerations

The study adhered to standard ethical safeguards, including informed consent of respondents and parents/guardians, voluntary participation with the right to withdraw at any time, anonymized and password-protected data handling, and institutional approval from the Schools Division Superintendent and school administration. No financial incentives were provided, and the researchers declared no conflicts of interest.

3. RESULTS AND DISCUSSION

Level of Perceived Stress

As shown in Table 1, the majority of respondents reported moderate (63.8%, $n = 171$) to high (32.1%, $n = 86$) levels of perceived stress, while only 4.1% ($n = 11$) reported low stress. Item-level analysis of the PSS-10 showed that over 85% of respondents experienced stress-related symptoms — feeling upset by unexpected events, lacking control, nervousness, limited confidence in handling personal problems, and dissatisfaction with how things were going — at least “sometimes” across the past month, indicating a consistent and recurring pattern of stress exposure rather than isolated incidents.

Table 1. Distribution of Participants' Perceived Stress Levels (N = 268)

Stress Level	f	%
Low (0-13)	11	4.1
Moderate (14-26)	171	63.8
High (27-40)	86	32.1

The results align with Lazarus and Folkman's (1984) Transactional Model of Stress and Coping, in which students' cognitive appraisal of academic demands — rather than the demands themselves — shapes their stress experience. The clustering of high agreement on items reflecting threat appraisal (e.g., feeling overwhelmed, anger at uncontrollable events) alongside moderate agreement on coping-related items (e.g., controlling irritations, feeling “on top of things”) suggests that respondents exhibit both vulnerability to stress and active, if imperfect, coping resources. The findings are consistent with Musa, D'Souza, and Al-Mazrouei (2020), who similarly found moderate to high stress levels among high school students driven primarily by academic workload.

Level of Digital Planner Usage

Table 2 presents the distribution of digital planner usage levels. The overwhelming majority of respondents (90.3%, $n = 242$) were classified as high users, while 9.3% ($n = 25$) were moderate users and only 0.4% ($n = 1$) was a low user.

Table 2. Distribution of Participants' Digital Planner Usage Levels (N = 268)

Usage Level	f	%
Low (0-60)	1	0.4
Moderate (61-120)	25	9.3
High (121-180)	242	90.3

Across the four DPDGSS constructs, “Agree” and “Strongly Agree” responses dominated all items, particularly those concerning goal clarity, persistence on challenging tasks, commitment to planned goals, and responsiveness to feedback from teachers and peers. Neutral responses, ranging roughly from 50 to 90 per item, suggest that while most students value digital planners, a meaningful subgroup has not yet fully translated planning intentions into consistent action, possibly due to lower digital literacy, motivation, or planner design limitations. These patterns support Locke and Latham's (1990) Goal Setting Theory, which holds that

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clear, challenging, and feedback-supported goals improve performance and engagement, and are consistent with findings that goal-setting tools strengthen self-regulated learning when consistently applied (Arslan & Al-Shura, 2024; Hsu et al., 2023).

Test of Normality

Both the Shapiro-Wilk and Komogorov-Smirnov tests indicated that the digital planner usage scores (DPUS) and perceived stress level scores (PSLS) were not normally distributed ($p < .05$ for both tests and both variables), and the scatter plot of the two variables showed a diffuse, non-linear pattern. Spearman's rank-order correlation was therefore selected as the appropriate inferential statistic, rather than Person's r .

Descriptive Statistics

Table 3 presents the descriptive statistics for the two study variables — Digital Planner Usage Scores (DPUS) and Perceived Stress Score (PSS) — based on the responses of 268 Grade 10 students at Placido L. Señor National High School.

Table 3. Descriptive Statistics of Digital Planner and Perceived Stress Scores

Variable	Mean	SD	N
Digital Planner Usage Score (DPUS)	148.38	24.483	268
Perceived Stress Score (PSS)	24.14	5.825	268

The DPUS mean (148.38, $SD = 24.483$) reflects a broad spread of planning habits among students, while the PSS mean (24.14, $SD = 5.825$) falls within the moderate-stress range with comparatively little variation, indicating that most students share a fairly common experience of moderate academic stress. Notably, students with relatively high digital planner usage still reported, on average, only moderate rather than low stress, suggesting that digital planners help students organize tasks and deadlines without fully eliminating stress — consistent with the view that stress arises when perceived demands exceed available coping resources (Lazarus & Folkman, 1984).

Correlation Analysis

Table 4 presents the results of the Spearman rank-order correlation analysis conducted to determine the nature and strength of the relationship between digital planner usage and perceived stress levels among the 268 Grade 10 respondents.

Table 4. Spearman Correlation Between Digital Planner Usage and Perceived Stress

Variable	Spearman's rho	P(2-tailed)	N
DPUS x PSLS	.155*	.011	268

Note: Correlation is significant at the 0.05 level (2-tailed)

Spearman's correlation revealed a statistically significant, weak positive relationship between digital planner usage and perceived stress, $p = .155$, $p = .011$, leading to rejection of the null hypothesis. The positive direction indicates that students who use digital planners more frequently tend to report somewhat higher — though still moderate rather than low — levels of perceived stress, suggesting that digital planners are most actively adopted by students already managing demanding academic loads, rather than functioning as a stand-alone solution that eliminates stress. The weak magnitude of the relationship implies that digital planners primarily address organizational stressors, such as deadlines and task breakdown, while emotional stressors — peer competition, exam anxiety, and family expectations — remain largely unaddressed.

These results extend Goal Setting Theory (Locke & Latham, 1990) by showing that goal-setting tools alone, without consistent application and self-monitoring, are not sufficient to substantially lower stress, supporting the broader literature on the importance of self-regulation in stress management (Bandura, 1991; Zimmerman, 2000). The findings parallel Musa et al. (2020) in confirming academic workload as a dominant stressor, while extending the literature by showing that even high digital-planner users experience moderate stress, consistent with reviews noting that goal-setting tools are not always applied consistently (Martins van Jaarsveld et al., 2025) and that time management alone may be a weaker predictor of stress reduction than emotional regulation skills (Brillo et al., 2024).

Compared with studies that questioned the stress-reducing value of planning behaviors (Maharani & Mustikasari, 2021; Kaczmarek & Trambacz-Oleszak, 2021), the present findings offer a more nuanced picture: high digital-planner usage among Grade 10 students was associated with moderate rather than high stress, suggesting that digital planning may function as a buffering mechanism that helps prevent stress from escalating to severe levels, even if it does not eliminate it. This is broadly consistent with research showing that digital planning applications increase students' sense of organization and control (Mendoza et al., 2023; Caparos, et al., 2025) and that digital competence supports time management and self-efficacy, which in turn moderate academic stress (Galindo-Dominguez et al., 2021).

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The novelty of this study lies in its focus on Grade 10 adolescents — younger than the university populations typically studied (Wong & Lai, 2025; Galindo-Dominguez et al., 2021; Caparos et al., 2025) — and in its use of a theory-driven, locally validated instrument within a Philippine public secondary school context, an area where prior local research has concentrated on digital tools for instruction rather than personal organization (Samartin et al., 2022). These findings contribute new, context-specific evidence to the limited Philippine literature on digital planning and adolescent stress.

4. CONCLUSION

Grade 10 students at Placido L. Señor National High School commonly experience moderate to high levels of perceived stress, driven largely by academic responsibilities and reflecting both vulnerability to threat appraisal and the presence of adaptive coping responses, consistent with Lazarus and Folkman's (1984) Transactional Model of Stress and Coping. Students also make considerable use of digital planners to manage their time, with most demonstrating clear goal specifically, willingness to pursue challenging tasks, sustained commitment, and responsiveness to feedback — findings that support Locke and Latham's (1990) Goal Setting Theory, although the presence of neutral responses indicates that some student still need guidance translating intentions into specific, actionable goals.

The study further establishes a statistically but weak positive relationship between digital planner usage and perceived stress, indicating that while digital planners support organizational coping, they are not, on their own, sufficient to substantially reduce stress. Digital planners should therefore be regarded as a supporting coping tool that is most effective when combined with emotion-focused regulation strategies rather than as a stand-alone stress-reduction solution.

Building on these findings, schools are encouraged to integrate digital planners into broader stress-management and academic support programs that pair organizational tools with self-regulation and emotion-focused coping training. A structured intervention — such as a school-based time-management and well-being program that teaches students to maximize digital planning tools (e.g., calendar apps, to-do lists, and assignment trackers) while incorporating goal-setting and emotional reflection practices — may help students translate planning behaviors into measurable stress reduction. Complementary measures such as peer mentorship around planning habits, integration of planner-based tasks across subject areas, and structured stress-reflection journaling may further reinforce these gains. Future research should examine the longitudinal impact of sustained digital planner use, explore which planner features (e.g., reminders, personalization, feedback mechanisms) most effectively reduce stress, investigate gender-based and socioeconomic differences in planning and coping patterns, and include students who so not use digital planners to better understand barriers to adoption.

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