# The Effects of Smartphone Use on College Students' Learning Competence among Bachelor of Technology and Livelihood Education Evening Program Students

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## ABSTRACT

This research assessed the relationship between smartphone distraction experience and the digital learning competence of the BTLED Evening Program students studying in Cebu Technological University Main Campus during the school year 2024-2025. It aimed to develop an intervention plan that will help students develop a more mindful and balance approached to smartphone use. It utilized the descriptive-correlation method. There are 138 students from College of Teacher Education who answered the survey questionnaires adapted from Smartphone Distraction Scale (SDS) by Throuvala et al. (2021), Digital Learning Competence Scale by Yang et al. (2020). The study found that most participants were female, primarily within the 19 to 21 age range. More than half lived with both parents and reported having 3 and 5 siblings. Additionally, a notable portion of the respondents identified themselves as the youngest among their siblings. Academically, the study found that smartphone distraction, characterized by attention impulsiveness, online vigilance, emotion regulation, and multitasking, is significantly correlated with various aspects of digital learning competence. Respondents demonstrated varying levels of digital competence, with attention impulsiveness showing a weak but significant negative correlation with skills such as technology use, cognitive processing, digital reading, time management, and will management except peer management. Conversely, online vigilance and emotion regulation were positively associated with most digital learning competencies, particularly cognitive processing, digital reading, and self-regulation domains, though not with technology use. Notably, multitasking was significantly linked to all areas of digital learning competence, especially will management, suggesting a more nuanced role in supporting academic self-regulation than traditionally assumed. These findings underscore the complex relationship between smartphone-related behaviors and digital learning skills, emphasizing the need to develop targeted interventions that help students manage distractions and strengthen their competencies in digital learning environments. Based on the findings and conclusions, a digital learning competence-related career guidance intervention plan is proposed for implementation.

**Keywords:** Guidance and Counselling, Smartphone Distraction, Digital Learning Competence, Descriptive - correlation Method, Cebu City, Philippines

## INTRODUCTION

The proliferation of smartphones has introduced a significant obstacle to students' ability to focus and engage effectively within digital learning environments. Distractions originating from these devices, such as the compulsion to respond immediately to notifications, the constant desire to remain online and connected, difficulties in managing emotions triggered by digital interactions, and the habitual practice of multitasking across various applications, collectively are associated with disruptions in students' capacity for meaningful engagement with academic work and efficient time management. These disruptions may negatively affect their digital learning competence, a crucial skill set in contemporary education. Digital learning competence encompasses students' proficiency in utilizing digital tools, processing information, managing time and attention, and collaborating with peers in online settings. Consequently, understanding the influence of these smartphone distraction factors on core competencies like digital reading skills, time management, and self-

regulation is essential for supporting students' academic development and preparing them for a technology-driven world.

The impact of smartphone distraction on digital competence is a global concern, with educational institutions reporting significant challenges related to students' concentration, organizational skills, and productivity. As highlighted by Throuvala et al. (2021), frequent smartphone notifications and the constant need for online presence are associated with the reduced students' sustained attention and increase impulsiveness, thereby hindering their ability to regulate learning behaviors. In the Philippines, the widespread accessibility of mobile devices has amplified these challenges among college students, raising concerns about their academic performance and readiness for digital tasks. For instance, a local study by Yang et al. (2020) revealed that college students reported difficulties in maintaining focus during online classes due to persistent smartphone notifications, which disrupted their task engagement. These instances illustrate the pervasive nature of smartphone distraction across diverse educational contexts, impacting students' overall digital learning competence and impeding their potential for academic achievement.

At Cebu Technological University-Main Campus, the detrimental effects of smartphone distraction on students' digital learning competence are readily apparent. Specifically, BTLED Evening Program students exhibit a noticeable struggle to balance digital academic responsibilities with personal smartphone usage. These students often demonstrate tendencies of frequent phone checking, which interrupts their study sessions, compromises their time management, and diminishes their focus on assignments. These distractions appear to negatively influence their ability to effectively utilize digital tools, manage peer interactions in online environments, and allocate their time and energy towards productive academic endeavors. Furthermore, students seem to encounter challenges in self-regulation, affecting their will management and their capacity to control impulsive digital behaviors.

Therefore, recognizing the significance and necessity of investigating this issue, this study will assess the relationship between smartphone distraction, encompassing attention impulsiveness, online vigilance, emotion regulation, and multitasking, on the digital learning competence of BTLED Evening Program students at Cebu Technological University-Main Campus for the academic year 2024–2025. Digital learning competence, as defined in this study, will be measured in terms of technology use, cognitive processing, digital reading skills, time management, peer management, and will management. This research aims to elucidate the relationship between smartphone distraction and digital learning competence, providing a foundational understanding that will inform the development of a targeted career guidance intervention plan designed to support students' academic growth and overall well-being.

**Theoretical Background**

This research seeks to examine the relationship between smartphone distraction experience and digital learning competence of the BTLED Evening Program students in Cebu Technological University-Main Campus for academic year 2024– 2025 as basis for a digital learning competence-related career guidance intervention plan. This study is anchored on the following theories and concepts that focus on the main variables of this study.

Cognitive Load Theory (CLT), proposed by Sweller (1988), posits that working memory has limited capacity, and learning is hindered when this capacity is overloaded. In this study, smartphone distraction (e.g., notifications, social media use, and multitasking) represents extraneous cognitive load that competes with learning-related processing. When students divide their attention between academic tasks and smartphone activities, fewer cognitive resources are available for understanding and retaining digital learning materials. This associated with reduced their ability to perform tasks requiring higher-order thinking, thereby relating to variations in digital learning competence.

Attention Residue Theory, introduced by Leroy (2009), further explains how task-switching impairs performance. When students shift attention from academic work to smartphone use, part of their attention remains on the previous task, creating “attention residue.” This results in decreased focus and reduced efficiency when returning to learning tasks. In the context of this study, frequent switching between smartphones and academic activities is associated with disrupted sustained engagement, which may related to

differences in students' ability to effectively process digital content and develop competence in digital learning environments.

To define the dependent variable, this study adopts the Digital Competence Framework (Ferrari, 2013), which conceptualizes digital competence as the ability to use digital technologies effectively, critically, and responsibly. The framework identifies key competence areas, including information and data literacy, communication and collaboration, digital content creation, safety, and problem solving. These domains serve as the basis for measuring students' digital learning competence in this study.

Taken together, these frameworks provide a coherent explanation of the relationship between the study variables. Cognitive Load Theory and Attention Residue Theory explain how smartphone distraction is associated with changes in cognitive functioning and learning processes, while the Digital Competence Framework defines the set of skills and abilities examined in relation to such disruptions. This alignment establishes a clear theoretical basis for examining how increased smartphone distraction is related to lower levels of digital learning competence among students.

The Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006) explains how teachers integrate technology, pedagogy, and content in instructional design. Although it primarily focuses on teacher knowledge, it provides a contextual understanding of how technology is embedded in learning environments that may indirectly influence students' digital learning experiences. In this study, TPACK is not treated as a measured variable but is acknowledged as part of the broader instructional context in which students develop digital competence. The primary focus remains on student-level cognitive processes and competencies as explained by Cognitive Load Theory, Attention Residue Theory, and the Digital Competence Framework.

**Legal Basis**

The legal basis of this study will be anchored in Republic Act 9258, also known as the Guidance and Counseling Act of 2004. This act regulates the practices of guidance and counseling, emphasizing the role of the profession in the holistic development of students by providing services that benefit their overall wellbeing. In line with this, guidance counselors are responsible for assessing students' needs, particularly how smartphone use is associated with their learning, and offering career guidance intervention plan accordingly. According to Mau (2019), career development interventions in schools are essential in helping students make informed decisions about their future, which is integral to the guidance counselor's role in supporting their career aspirations.

Another legal basis for the study is Republic Act 11927, also known as the Philippine Digital Workforce Competitiveness Act. This law aims to develop the digital workforce in the Philippines and ensure access to digital skills, which aligns with the study's focus on digital learning competence and how students' engagement with technology influences their academic performance and career readiness. According to the study by Serafica and Oren (2022), developing digital competencies is essential for preparing students to meet the demands of the digital economy, as it enhances their ability to adapt to emerging technologies and contribute to the workforce effectively. (Serafica & Oren, 2022).

The final legal basis is Republic Act 10650, also known as the Open Distance Learning Act. This law was enacted to increase access to quality tertiary education by promoting open learning and distance education, both of which are relevant to the study's exploration of digital learning environments and the challenges students face in balancing technology use with academic achievement. According to Agaton and Cueto (2021), distance learning, though a promising approach to education, presents challenges for both students and parents, particularly in terms of technology access and the ability to balance learning with other responsibilities. (Agaton & Cueto, 2021).

**Significance of the Study**

This study highlights the relationship between smartphone distraction and students' digital learning competence. It examines how smartphone use associated with digital literacy, self-regulation, academic performance, and engagement in digital learning environments.

The findings provide an evidence base for developing policies, programs, and interventions that promote responsible technology use and strengthen digital competence in higher education. The results may benefit Commission on Higher Education (CHEd) officials, university administrators, guidance counselors, faculty, parents, students, the researcher, and future researchers by offering insights that support improved academic outcomes and informed decision-making.

**Objectives of the Study**

This research sought to assess the relationship between smartphone distraction experience and the digital learning competence of the BTLED Evening Program students in Cebu Technological University-Main Campus for academic year 2024– 2025 as basis for a digital learning competence-related guidance intervention plan.

**Statement of the Problem**

Specifically, it answered the following questions:

1. What is the profile of the respondents in terms of:

1.1. age and gender,

1.2. person whom they live with,

1.3. the number of siblings,

1.4. birth order, and

1.5. combined family income?

2. What is the level of smartphone distraction experience of the respondents in terms of:

2.1. attention impulsiveness,

2.2. online vigilance,

2.3. emotion regulation, and

2.4. multitasking?

3. What is the level of digital learning competence of the respondents in terms of:

3.1. technology use,

3.2. cognitive processing,

3.3. digital reading skill,

3.4. time-management,

3.5. peer management, and

3.6. will management?

4. Is there a significant relationship between the level smartphone distraction experience and the level of digital learning competence of the respondents?

5. Based on the findings, what digital learning competence-related career guidance intervention plan can be proposed?

# RESEARCH METHODOLOGY

This chapter describes the profile of the respondents, the research method, and the procedure of the study, which includes the sampling technique, the research instruments, and statistical tools.

**Research Design**

The study was quantitative research that used descriptive and correlational methods. It determined the relationship between smartphone distraction experience and the digital learning competence of the BTLED Evening Program students in Cebu Technological University-Main Campus for academic year 2024– 2025 as basis for a digital learning competence-related career guidance intervention plan.

As posited by Taguchi (2018), Bloomfield & Fisher (2019), and Remler & Ryzin (2021), descriptive research provides an avenue for closer observation of facts and essential knowledge about people's experiences. In addition, the correlational research design examines relationships between variables without manipulating them (Ary et al., 2018; Seeram, 2019; Coe et al., 2021).

**Environment**

This study was conducted at Cebu Technological University-Main Campus, particularly in the College of Education. The premier University of the queen city of the south was formerly known as Cebu State College of Science and Technology (CSCST), is composed of 1 main campus, 13 satellite and 14 extensions throughout the Province of Cebu. CTU was admitted to the level of being a state university through legislation of the Republic Act No. 9744. in the year 2009. It is composed of one (1) main; nine (13) satellite and 14 extension campuses throughout the province of Cebu. Main campus is located in Cebu City; satellite campuses in Argao, Barili, Balamban, Carmen, Cebu City Mountain Campus, Consolacion, Daanbantayan, Danao City, Moalboal, Pinamungajan San Francisco, Toledo, and Tuburan, extension campuses in Asturias, Bantayan Island, Dumanjug, Ginatilan, Guba, Malabuyoc, Naga, Oslob, Samboan, San Fernando, San Remigio, Sogod Tabogon, Tabuelan. It becomes fully standardized and highly institutionalized its educational system's entire management upon indulging in a world-renowned certification. The University, formerly the Cebu State College of Science and Technology, was granted a Certificate of Registration by Anglo-Japanese American (AJA) Registrars Incorporated following ISO 9001:2000 Quality Management System Standards, with Certification No. AJA 03/6952 giving it international recognition. On February 7, 2007, CSCST was recertified by AJA Registrars Inc. as ISO 9001:2000 QMS compliant. CTU now accommodates 27 campuses and around 41 000 students. It is ISO 9001:2015 certified and is SUC Level IV (the highest for state universities and colleges). CTU College of Education has 11 accredited programs for the undergraduate level and 14 for the graduate level and has active research and extension centers. Last December 2018, CTU was one of the recipients of the Recognition Award from the Commission on Higher Education for its invaluable contribution to the Training on Internationalization of Higher Education. Recently, CTU was also certified by TUV Rheinland Philippines Inc.

**Respondents**

The respondents for this research were the BTLED Evening Program students of the College of Education at the Cebu Technological University-Main Campus. There will be 138 respondents from the BTLED Evening Program.

This study employed **universal sampling**, wherein all members of the identified population were included as respondents to ensure comprehensive data collection and minimize sampling bias.

**Instrument**

This research sought to examine the influence of smartphone distraction on students' digital learning competence among college students. Data were gathered using a structured questionnaire composed of three sections.

Part 1 Demographic Profile: collected information on respondents' age, gender, number of siblings, birth order, and living arrangement. Part 2 Smartphone Distraction Scale (SDS): adapted from Throuvala et al. (2021), assessed the level of smartphone distraction across four dimensions—attention impulsiveness, online vigilance, emotion regulation, and multitasking—using a 16-item, 5-point Likert scale instrument. Part 3 Digital Learning Competence Scale (DLC): adapted from Yang et al. (2020), measured students' digital learning competence across six dimensions—technology use, cognitive processing, digital reading skill, time management, peer management, and will management—using a 39-item, 5-point Likert scale instrument.

**Data Gathering Procedure**

**Preliminary Stage**. A letter of permission was submitted to the Dean of the College of Education. Upon approval, a schedule was coordinated to meet the respondents and administer the survey.

**Data Gathering Stage**. An orientation was conducted to explain the study's purpose, procedures, and confidentiality measures. The questionnaires were then distributed, with instructions provided and assistance offered as needed. After completion, the questionnaires were collected and checked for completeness.

**Post Data Gathering Stage**. The responses were tallied, organized, and encoded for statistical treatment. The data were analyzed and interpreted using appropriate statistical tools to address the study's objectives.

**Statistical Treatment**

To address the research questions, the following statistical tools were utilized:

**Frequency Count and Percentage**: To summarize and describe the demographic characteristics of the respondents.

**Weighted Mean**: To determine the level of smartphone distraction and digital learning competence based on the respondents' ratings.

**Pearson Product-Moment Correlation Coefficient (PPMCC):** To identify the strength and direction of the relationship between smartphone distraction and digital learning competence.

**Ethical Considerations**

The study observed strict ethical standards throughout its conduct. Participation was voluntary, and informed consent was secured after respondents were fully informed about the study. They were assured of their right to refuse or withdraw at any time without penalty. Confidentiality and anonymity were maintained by ensuring that no identifying information was collected or disclosed, and all data were used solely for academic purposes. The study also complied with the Data Privacy Act of 2012 by ensuring the proper and secure handling of all personal data. Honesty and integrity were observed in all stages of the research, with respect given to the respondents' privacy, time, and well-being throughout the process.

## RESULTS

This chapter presents the analysis of smartphone distraction and its relationship with digital learning competence among college students. The investigation included the demographic profile of the respondents, such as age, gender, number of siblings, birth order, and living arrangement.

The study further assessed the level of smartphone distraction across dimensions including attention impulsiveness, online vigilance, emotion regulation, and multitasking. It also evaluated students' digital learning competence in terms of technology use, cognitive processing, digital reading skill, time management, peer management, and will management. Finally, the research tested the null hypothesis to determine whether a significant relationship exists between smartphone distraction and digital learning competence.

Data were gathered through a structured survey questionnaire, and the results are presented and analyzed in the succeeding sections.

**Demographic Profile of the Respondents**

The respondents were student from Cebu Technological University (CTU) Main campus. A BTLED evening program students from 1st to 4th year level in Academic Year 2024-2025. It detailed the demographic profile of the participants, including Age and Gender, Birth Order, whom do they currently live with, Number of Siblings, and their Combined Family Monthly Income. Understanding the composition of the respondent group is essential for contextualizing the findings and interpreting the results of the study.

**Age and Gender**

This section detailed the age and gender distribution of the student respondents participating in the study. Understanding the demographic breakdown of participants by age and gender allowed for a more nuanced analysis of smartphone use and its potential impact on learning competence within different student subgroups. This information provided valuable context for interpreting the study's findings and considering the potential influence of these demographic factors.

Table 2. Age and Gender of the Respondents

| Age (years old) | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | f | % | f | % | f | % |
| 18 | 4 | 2.90 | 15 | 10.87 | 19 | 13.77 |
| 19 | 8 | 5.80 | 27 | 19.57 | 32 | 23.19 |
| 20 | 6 | 4.35 | 22 | 15.94 | 28 | 20.29 |
| 21 | 5 | 3.62 | 22 | 15.94 | 27 | 19.57 |
| 22 | 3 | 2.17 | 13 | 9.42 | 16 | 11.59 |
| 23 | - | - | 12 | 8.70 | 12 | 8.70 |
| 24 | 1 | 0.72 | 2 | 1.45 | 3 | 2.17 |
| 25 | - | - | 1 | 0.72 | 1 | 0.72 |
| Sub-total | 27 | 19.57 | 114 | 82.61 | 138 | 100.00 |

The data revealed a predominantly female respondent group (82.61%, n=114) compared to males (19.57%, n=27). The age of respondents ranged from 18 to 25, with the largest concentration in the 19-21 year old range. Specifically, 19-year-olds represent the largest single age group (23.19%, n=32), followed by 20-year-olds (20.29%, n=28) and 21-year-olds (19.57%, n=27). While females were more numerous across almost all age brackets, the proportional representation of males was slightly higher in the younger age groups (18-20).

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Notably, no male respondents were 23 or 25 years old, and the number of respondents decreased considerably after age 21.

The significant disparity in gender, with females comprising over 80% of the respondents, indicates that the BTLED evening program has higher proportion of female student. This imbalance limits the generalizability of the findings to male students, and results should therefore be interpreted with caution when considering potential gender differences in smartphone use and learning competence. Although gender-related differences in technology use and learning behavior may exist based on prior literature, this study did not conduct statistical tests to examine gender-based differences in the variables of interest. As such, any interpretation of outcomes should not assume equivalence or difference between male and female respondents.

As Baggas and Dumangeng (2023) suggested in their study on the status of BTLED implementation, factors influencing student demographics, including gender, may be associated with differences in program outcomes. They emphasized the importance of understanding these demographic nuances to ensure effective program delivery and address potential disparities in access and success. The concentration of respondents in the 19-21 age range is typical for college students, particularly in evening programs which may accommodate individuals who are working or returning to education. The lower representation of older students (22-25) may reflect various factors, such as program structure, career progression, or other life circumstances influencing enrollment at these ages. The absence of male respondents in the 23 and 25 age brackets was notable and may reflect underlying demographic trends within the program. Further investigation into program demographics and student motivations may provide further insight into these age and gender distributions.

**Person Whom They Live With**

This section examined the living arrangements of the student respondents, specifically focusing on the individuals with whom they resided. Understanding students' living situations provided valuable context for interpreting their responses regarding smartphone use and its impact on their learning competence. This information shed light on potential influences on study habits, access to technology and overall learning environment.

Table 3. Person Whom They Live With

| Living with | f | % |
|---|---|---|
| both parents | 62 | 44.93 |
| single parent | 7 | 5.07 |
| a guardian | 6 | 4.35 |
| grandparent/s | 10 | 7.25 |
| Uncle/aunt | 8 | 5.80 |
| Siblings | 10 | 7.25 |
| living alone | 4 | 2.90 |
| living with a partner | 31 | 22.46 |
| Total | 138 | 100.00 |

The data regarding living arrangements revealed that the largest proportion of respondents (44.93%, n=62) resided with both parents. A notable portion (22.46%, n=31) reported living with a partner. While a smaller percentage of students lived with a single parent (5.07%, n=7), a guardian (4.35%, n=6), grandparents (7.25%,

n=10), uncles/aunts (5.80%, n=8), or siblings (7.25%, n=10), these categories collectively represented a substantial portion of the student population. Only a small fraction of respondents (2.90%, n=4) indicated that they lived alone. This distribution refelcts diverse family and living structures among the student respondents.

The data revealed a diverse range of living situations among the respondents, with a notable 45% residing with both parents, potentially indicating a stable home environment. However, a significant 22% living with a partner suggested a demographic with unique considerations related to adult relationships and resource management. Furthermore, the representation of students living with single parents, guardians, grandparents, or other relatives highlighted the importance of acknowledging varied family structures, which could influence access to support and resources. This diversity in living arrangements is critical for interpreting the correlation between smartphone use and learning competence.

As the OECD (2023) highlighted in the PISA 2022 Results (Volume III): Learning and Well-being, students' home environments are associated with their educational experiences and outcomes. The OECD study underscored that factors such as family structure and socio-economic background played a crucial role in students' learning and well-being, which aligned with the necessity to consider these factors when analyzing the data concerning smartphone use and learning competence in this context. The small percentage of students living alone further added to the diverse tapestry of living situations within the respondent group.

**Number of Siblings**

This section presented data on the number of siblings the student respondents had. Understanding the sibling context provided insights into potential family dynamics, resource allocation within the household, and the overall home environment, all of which might have indirectly influence students' study habits, access to technology, and ultimately, their learning competence. This information offered another layer of understanding regarding the students' backgrounds and potential influences on their academic lives.

Table 4. Number of Siblings

| No. of Siblings | f | % |
|---|---|---|
| 0 | 5 | 3.62 |
| 1 | 4 | 2.90 |
| 2 | 14 | 10.14 |
| 3 | 36 | 26.09 |
| 4 | 17 | 12.32 |
| 5 | 22 | 15.94 |
| 6 | 13 | 9.42 |
| 7 | 11 | 9.97 |
| 8 | 8 | 5.80 |
| 9 | 3 | 2.17 |
| 10 | 3 | 2.17 |
| 12 | 2 | 1.45 |
| Total | 138 | 100.00 |

The data concerning the number of siblings revealed a diverse range among the respondents. The most frequent response was having three siblings (26.09%, n=36). A substantial portion of respondents also reported having five siblings (15.94%, n=22), four siblings (12.32%, n=17), and two siblings (10.14%, n=14). While fewer respondents had one sibling (2.90%, n=4) or no siblings (3.62%, n=5), a considerable number came from larger families, with some reporting as many as 12 siblings. The distribution indicated a wide variation in family size among the student respondents.

The data showed a notable trend towards moderately sized families, with the most frequent response being three siblings. However, the substantial presence of respondents with five or more siblings indicated a significant portion of the student population came from larger families, which could have had implications for resource distribution and familial interactions. This variation in family size, alongside the smaller representation of students with no or only one sibling, underscored the diverse family structures within the respondent group.

As Blake (2022) discussed in "Family size and achievement," family size can significantly influence students' access to resources and the dynamics of family support. Specifically, larger families may face challenges in providing individual attention and access to shared resources like computers or dedicated study spaces, which were pertinent factors when examining the relationship between smartphone use and learning competence. Therefore, understanding these familial contexts was crucial for a nuanced interpretation of how smartphone utilization impacted students' learning outcomes.

**Birth Order**

This section explored the birth order of the student respondents. Understanding birth order offered insights into potential personality traits, family roles, and access to resources within the family, all of which might have indirectly influenced academic performance and learning behaviors. This information provided a further dimension to the respondents' backgrounds and contributed to a more nuanced interpretation of the study's findings on smartphone use and learning competence.

Table 5. Birth Order

| **Birth Order** | **f** | **%** |
|---|---|---|
| Oldest Child | 29 | 20.57 |
| Second Child | 20 | 14.18 |
| Middle Child | 31 | 21.99 |
| Youngest Child | 56 | 40.58 |
| Only Child | 2 | 1.42 |
| Total | 138 | 100.00 |

The data on birth order revealed that the largest group of respondents were the youngest children (40.58%, n=56). Middle children comprised the second largest group (21.99%, n=31), followed closely by oldest children (20.57%, n=29). Second children made up 14.18% (n=20) of the respondents. Only a very small percentage (1.42%, n=2) of respondents were only children. This distribution indicated a predominance of youngest children within the respondent group.

The data indicated that the youngest child birth order was the most frequent among the respondents, potentially indicating an overrepresentation of this group within the study. Middle and oldest children showed a relatively balanced representation, while second children formed a smaller, though still significant, portion. The very low count of only children suggested this family structure was less common among the participants. This

distribution of birth orders was important to consider, as it could correlate with distinct personality traits and family dynamics, which might have influenced students' interactions with technology and their learning approaches.

As Tran et al. (2019) explored, familial factors significantly influenced how young individuals engaged with educational activities. They demonstrated that birth order, along with other socio-cultural elements, played a role in shaping learning behaviors. Therefore, the observed birth order distribution needed to be considered when interpreting the relationship between smartphone use and learning competence within this respondent group, as it could have shed light on how different family roles and dynamics impacted technological engagement and learning strategies.

**Combined Family Income**

This section presented data regarding the combined family income of the student respondents. Understanding family income provided crucial context for interpreting access to resources, including technology and internet connectivity, which could have significantly influenced students' learning opportunities and their use of smartphones for academic purposes. This information offered insights into potential socioeconomic factors that might have impacted the relationship between smartphone use and learning competence.

Table 6. Combined Family Income

| Income Bracket | f | % |
|---|---|---|
| less than ₱10,957 | 55 | 39.86 |
| between ₱10,957 - ₱21,914 | 64 | 46.38 |
| between ₱21,915 - ₱43,828 | 19 | 13.77 |
| between ₱43,829 - ₱76,699 | - | - |
| ₱76,700 and above | - | - |
| Total | 138 | 100.00 |

The data on combined family income showed that the largest percentage of respondents (46.38%, n=64) reported a family income between ₱10,957 and ₱21,914. A substantial proportion (39.86%, n=55) indicated a family income of less than ₱10,957. A smaller percentage (13.77%, n=19) reported a family income between ₱21,915 and ₱43,828. Notably, no respondents reported family incomes in the two highest income brackets (between ₱43,829 - ₱76,699 and ₱76,700 and above). This distribution suggested that the majority of respondents came from families with lower to middle incomes.

The data indicated that the majority of respondents came from families with combined incomes in the lower to middle range, specifically between ₱10,957 and ₱21,914. A substantial proportion of respondents reported family incomes below ₱10,957, highlighting potential financial constraints. The lack of representation in the higher income brackets suggested limited socioeconomic diversity within the respondent group. This income distribution was crucial context for understanding access to resources like technology, internet connectivity, and study materials, which could have influenced learning outcomes. These socioeconomic factors might have played a significant role in how students utilized smartphones for learning and the impact on their overall competence.

As Kim et al. (2019) showed, socioeconomic status significantly impacted academic outcomes highlighting how financial constraints could limit access to educational resources. Therefore, the observed income distribution should be considered when analyzing the relationship between smartphone use and learning

competence within this group, as it could have revealed how socioeconomic factors shape students' technological interactions and educational achievements.

**Level of Smartphone Distraction Experience of the Respondents**

This section examined the level of smartphone distraction experienced by the student respondents. Understanding the extent to which students perceived smartphones as a source of distraction was crucial for assessing the potential impact of these devices on their learning competence. This data explored the students' self-reported experiences with smartphone-related distractions and provided context for analyzing the relationship between smartphone use and academic performance.

**Attention Impulsiveness**

This section explored the attention impulsiveness of the student respondents. Attention impulsiveness, characterized by difficulty maintaining focus and a tendency to act without thinking, could have significantly impacted learning behaviors and academic performance. Understanding the respondents' levels of attention impulsiveness provided valuable context for interpreting the relationship between smartphone use and learning competence, as this trait might have influenced how students manage distractions and engaged with learning materials.

Table 7. Attention Impulsiveness

| No | Indicators | x | SD | VD |
|---|---|---|---|---|
| 1 | I get distracted by my phone notifications | 3.8 | 0.97 | HI |
| 2 | I get distracted by my phone apps. | 3.8 | 0.93 | HI |
| 3 | I get distracted by just having my phone next to me. | 3.7 | 1.02 | HI |
| 4 | I get distracted by my phone even when my full attention is required on other tasks | 3.5 | 1.13 | HI |
| | **Average** | **3.7** | **1.01** | **HI** |
| **NB:** 4.20-5.00 Very High (VH); 3.40-4.19 High (HI); 2.60-3.39 Moderate (MO); 1.80-2.59 Low (LO); 1.00-1.79 Very Low (VL) | | | | |

The data on attention impulsiveness revealed a high level of distraction among respondents. Across all four indicators, the average scores fell within the "High" range (3.40-4.19). Specifically, respondents reported high levels of distraction from phone notifications ($\bar{x}$ = 3.8, SD = 0.97), phone apps ($\bar{x}$ = 3.8, SD = 0.93), simply having their phone nearby ($\bar{x}$ = 3.7, SD = 1.02), and phone distraction even when focused on other tasks ($\bar{x}$ = 3.5, SD = 1.13). The average score across all indicators was 3.7 (SD = 1.01), also falling within the "High" range, indicated a general tendency towards attention impulsiveness related to smartphone use.

The consistently high scores across all attention impulsiveness indicators strongly suggested that smartphones were a significant source of distraction for the student respondents. The high average scores for distraction from notifications and apps highlighted the compelling nature of these features and their potential to interrupt focus. Even the mere presence of the phone appeared to contribute to distraction, indicating a learned association between the device and a lack of concentration. The fact that respondents report distraction even when needing to focus on other tasks underscored the pervasive nature of this issue and its potential impact on academic performance. These findings suggested a need for strategies to mitigate smartphone-related distractions in educational settings.

As Amez and Baert (2020) emphasized, smartphone use could indeed have a significant impact on academic performance. Their work underscored the potential for smartphones to act as a source of distraction, which aligned with the observed high scores on attention impulsiveness. Therefore, the data suggested that in this context, strategies aimed at minimizing smartphone distractions were crucial for improving student learning outcomes.

**Online Vigilance**

This section explored the online vigilance of the student respondents. Understanding their level of awareness and cautiousness in online environments was crucial given the increasing prevalence of online risks. This data provided context for interpreting the relationship between smartphone use, online behavior, and overall well-being.

Table 8. Online Vigilance

| No | Indicators | x | SD | VD |
|---|---|---|---|---|
| 1 | I get anxious if I don't check messages immediately on my phone | 3.3 | 1.17 | MO |
| 2 | I think a lot about checking my phone when I can't access it | 3.6 | 1.00 | HI |
| 3 | I get distracted with what I could post while doing other tasks | 3.1 | 1.07 | MO |
| 4 | I get distracted thinking how many likes and comments I will get while doing other tasks | 2.8 | 1.20 | MO |
| | **Average** | **3.2** | **1.20** | **MO** |
| **NB:** 4.20-5.00 Very High (VH); 3.40-4.19 High (HI); 2.60-3.39 Moderate (MO); 1.80-2.59 Low (LO); 1.00-1.79 Very Low (VL) | | | | |

The data on online vigilance revealed mixed results. While the overall average score (3.2, SD = 1.20) indicated a moderate level of online vigilance, there was variation across the individual indicators. Respondents reported a high level of concern about checking their phones when unable to access them ($\bar{x}$ = 3.6, SD = 1.00). Moderate levels of vigilance were observed for anxiety about not immediately checking messages ($\bar{x}$ = 3.3, SD = 1.17), distraction with potential posts while doing other tasks ($\bar{x}$ = 3.1, SD = 1.07), and distraction thinking about likes and comments ($\bar{x}$ = 2.8, SD = 1.20). This suggested a tendency to think about phone use and social media, even when engaged in other activities.

The moderate overall online vigilance score, coupled with the high score for concern about checking phones when inaccessible, suggested a potential dependence on mobile devices and a fear of missing out (FOMO). While respondents may not have been constantly anxious about every message or post, the preoccupation with phone accessibility indicated a strong connection to their devices.

As Elhai et al. (2020) demonstrated, fear of missing out and anxiety were deeply connected to smartphone usage. The moderate scores for distraction related to posting and social media engagement further reinforced this connection, suggesting that thoughts about online presence and interactions frequently intruded on other activities. This level of online vigilance, while not extremely high across all indicators, still pointed to a significant integration of mobile devices and social media into the respondents' lives, potentially impacting their ability to focus on other tasks, including academic work.

**Emotion Regulation**

This section explored the emotion regulation skills of the student respondents. Emotion regulation, the ability to manage and control one's emotions, played a crucial role in psychological well-being and adaptive behavior. Understanding the respondents' emotion regulation capacities provided valuable context for interpreting the

relationship between smartphone use, emotional well-being, and learning competence, as emotional regulation could have influenced how individuals coped with stress, managed distractions, and engaged in academic pursuits.

Table 9. Emotion Regulation

| No | Indicators | x | SD | VD |
|---|---|---|---|---|
| 1 | Using my phone distracts me from doing unpleasant things | 3.4 | 1.06 | HI |
| 2 | Using my phone distracts me from negative or unpleasant thoughts | 3.4 | 1.02 | HI |
| 3 | Using my phone distracts me from tasks that are tedious or difficult | 3.5 | 1.00 | HI |
| 4 | Using my phone distracts me when I'm under pressure | 3.4 | 1.06 | HI |
| | Average | 3.4 | 1.03 | HI |
| **NB:** 4.20-5.00 Very High (VH); 3.40-4.19 High (HI); 2.60-3.39 Moderate (MO); 1.80-2.59 Low (LO); 1.00-1.79 Very Low (VL) | | | | |

The data on emotion regulation revealed a high reliance on smartphones for distraction. All four indicators, and the average score (3.4, SD = 1.03), fell within the "High" range, suggesting a tendency to use phones to avoid unpleasant tasks, negative thoughts, tedious/difficult activities, and pressure. Specifically, respondents reported using their phones to distract themselves from unpleasant things ($\bar{x}$ = 3.4, SD = 1.06), negative thoughts ($\bar{x}$ = 3.4, SD = 1.02), tedious/difficult tasks ($\bar{x}$ = 3.5, SD = 1.00), and pressure ($\bar{x}$ = 3.4, SD = 1.06). This consistent pattern across indicators highlighted the role of smartphones as a coping mechanism for managing unpleasant experiences and stressful situations.

The consistently high scores across all emotion regulation indicators demonstrated a strong reliance on smartphones as a means of distraction and emotional avoidance. Students frequently used their phones to escape unpleasant tasks, negative thoughts, and the pressures of daily life, indicating a potential coping mechanism that prioritized temporary relief over direct engagement with challenges. This reliance on distraction might have hindered the development of healthier emotion regulation strategies. The similar scores across all indicators suggested a generalized pattern of using smartphones for emotional regulation rather than a specific use case.

This pattern suggested that smartphones functioned as a primary coping mechanism for managing negative emotions and stressful situations within the studied population, aligning with broader research on smartphone addiction and its associated behavioral outcomes, as highlighted by Shahjehan et al. (2021), indicating a potential hindrance to developing healthier coping strategies.

**Multitasking**

This section examines the multitasking behaviors of the student respondents, specifically focusing on their simultaneous engagement with smartphones and academic tasks. Understanding how students combine these activities provides crucial context for analyzing the potential impact of multitasking on their learning competence.

Table 10. Multitasking

| No | Indicators | x | SD | VD |
|---|---|---|---|---|
| 1 | I use several applications on my phone while working | 3.5 | 1.14 | HI |

| | | | | |
|---|---|---|---|---|
| 2 | I can easily follow conversations while using my phone | 3.7 | 1.06 | HI |
| 3 | I often walk and use my phone at the same time | 3.6 | 0.95 | HI |
| 4 | I often talk to others while checking what's on my phone | 3.3 | 1.10 | MO |
| | Average | 3.5 | 1.06 | HI |

**NB:** 4.20-5.00 Very High (VH); 3.40-4.19 High (HI); 2.60-3.39 Moderate (MO); 1.80-2.59 Low (LO); 1.00-1.79 Very Low (VL)

The data on multitasking revealed a high level of engagement in multitasking behaviors, with the overall average score (3.5, SD = 1.06) falling within the "High" range. Respondents frequently used multiple phone applications while working ($\bar{x}$ = 3.5, SD = 1.14), could easily follow conversations while using their phones ($\bar{x}$ = 3.7, SD = 1.06), and often walked and used their phones simultaneously ($\bar{x}$ = 3.6, SD = 0.95). While talking to others while checking their phones was rated as moderate ($\bar{x}$ = 3.3, SD = 1.10), it still indicated a tendency to combine activities. This pattern suggested that multitasking with smartphones was a common practice among the respondents.

The high average score for multitasking among respondents, indicating a prevalent behavior of combining smartphone use with other activities, underscored the potential for distraction and reduced focus on academic tasks. According to Mrazek et al. (2021), the ability to seamlessly integrate smartphone usage into various tasks, from work to social interactions and even physical activities like walking, reflected a normalization of digital multitasking. Simultaneous use of multiple phone applications while working highlighted the potential for distraction and reduced focus on academic tasks. Walking while using a phone, while common, demonstrated a willingness to engage in potentially risky behavior while distracted. Even talking to others while checking a phone, though rated as moderate, suggested a division of attention that could have impacted communication quality and engagement.

**Level of Digital Learning Competence of the Respondents**

This section assessed the digital learning competence of the student respondents. Understanding their skills and abilities in utilizing technology for learning was crucial for evaluating the impact of smartphone use on their academic success. This data explored various aspects of digital learning competence to provide a comprehensive picture of students' capabilities in the digital learning environment.

**Technology Use**

This section examined the technology use patterns of the student respondents. Understanding how students utilized technology, particularly smartphones, for academic and other purposes provided essential context for analyzing its impact on their learning competence. This data explored the frequency and types of technology use to offer a comprehensive view of students' engagement with digital tools.

Table 11. Technology Use

| No | Indicators | x | SD | VD |
|---|---|---|---|---|
| 1 | I can use the map to plan the travel routes before going to strange place. | 4.0 | 0.90 | GD |
| 2 | I can use the road sign to find the destination in a strange place. | 4.1 | 0.82 | GD |
| 3 | I can check the instructions to operate correctly for unfamiliar home appliances. | 4.1 | 0.73 | GD |

| | | | | |
|---|---|---|---|---|
| 4 | I can use the digital tools to create multimedia works (such as pictures, animation, video, etc.) | 4.1 | 0.82 | GD |
| 5 | I can catch the key points of the video or audio information | 3.9 | 0.77 | GD |
| 6 | I can complete the learning tasks assigned by teacher by using various resources comprehensively, such as teaching materials, supplementary materials, and network resources | 4.1 | 0.70 | GD |
| 7 | I can choose the appropriate means of communication to share my own multimedia works with my classmates, such as through QQ, E-mail, U-disk, etc. | 4.1 | 0.79 | GD |
| 8 | I will evaluate, modify and improve my own multimedia works. | 4.0 | 0.81 | GD |
| 9 | I will compare the authenticity and reliability of the information from newspaper, broadcast, network, etc. | 3.9 | 0.77 | GD |
| | Average | 4.03 | 0.79 | GD |
| **NB:** 4.20-5.00 Excellent (EX); 3.40-4.19 Good (GD); 2.60-3.39 Average (AV); 1.80-2.59 Poor (PR); 1.00-1.79 Very Poor (VP) | | | | |

The data on technology use indicated a generally good level of proficiency among respondents. The average score across all indicators (4.03, SD = 0.79) fell within the "Good" range. Respondents demonstrated good skills in using maps and road signs for navigation ($\bar{x}$ = 4.0, SD = 0.90; $\bar{x}$ = 4.1, SD = 0.82, respectively), operating unfamiliar appliances ($\bar{x}$ = 4.1, SD = 0.73), and creating multimedia works ($\bar{x}$ = 4.1, SD = 0.82). They also reported good abilities in grasping key information from audio/video ($\bar{x}$ = 3.9, SD = 0.77), completing learning tasks using various resources ($\bar{x}$ = 4.1, SD = 0.70), sharing multimedia works ($\bar{x}$ = 4.1, SD = 0.79), evaluating and improving their work ($\bar{x}$ = 4.0, SD = 0.81), and assessing information reliability ($\bar{x}$ = 3.9, SD = 0.77).

The 'Good' average score for technology use among respondents, indicating a solid foundation in utilizing digital tools for learning and daily tasks, was consistent with findings from research suggesting that digital competences, including computer and information literacy, positively contributed to effective engagement in digital learning environments (Schulz et al., 2021). The consistent scores across different indicators suggested a generalized competence in technology use rather than specialized skills in one area. This level of technological proficiency likely contributed to their ability to integrate technology, including smartphones, into their academic and daily lives. However, it was important to note that "Good" does not equate to "Excellent," suggesting room for further development of digital skills.

**Cognitive Processing**

This section explored the cognitive processing styles of the student respondents. Understanding how students processed information was crucial for analyzing their learning approaches and identifying potential influences on academic success. This data examined various aspects of cognitive processing to provide insights into how students acquired, stored, and utilized knowledge.

Table 12. Cognitive Processing

| No | Indicators | x | SD | VD |
|---|---|---|---|---|
| 1 | I can find main points that need to be remembered from the teacher's lecture or presentation. | 4.0 | 0.71 | GD |

| | | | | |
|---|---|---|---|---|
| 2 | I can find important information from the class discussion | 4.0 | 0.67 | GD |
| 3 | I will combine teacher's lecture, textbook and class discussion to better understand the learning content. | 4.1 | 0.80 | GD |
| 4 | I will link the new learning content with the knowledge that has already been mastered. | 4.0 | 0.78 | GD |
| 5 | I will list the important points before the exam, and try the best to remember them. | 4.1 | 0.68 | GD |
| 6 | I often review the contents of the lesson after class. | 3.8 | 0.78 | GD |
| 7 | I will often browse the textbooks and notes, and find out the most important content. | 4.0 | 0.72 | GD |
| | Average | 4.0 | 0.73 | GD |
| **NB:** 4.20-5.00 Excellent (EX); 3.40-4.19 Good (GD); 2.60-3.39 Average (AV); 1.80-2.59 Poor (PR); 1.00-1.79 Very Poor (VP) | | | | |

The data on cognitive processing demonstrated a generally good level of cognitive skills among respondents. The average score across all indicators (4.0, SD = 0.73) fell within the "Good" range. Respondents reported good abilities in identifying key points from lectures and discussions ($\bar{x}$ = 4.0, SD = 0.71; $\bar{x}$ = 4.0, SD = 0.67, respectively), integrating information from different sources ($\bar{x}$ = 4.1, SD = 0.80), and connecting new knowledge to prior learning ($\bar{x}$ = 4.0, SD = 0.78). They also showed good skills in preparing for exams by listing and remembering key points ($\bar{x}$ = 4.1, SD = 0.68), reviewing lesson content ($\bar{x}$ = 3.8, SD = 0.78), and identifying important information in texts and notes ($\bar{x}$ = 4.0, SD = 0.72).

The 'Good' average score for cognitive processing among respondents, indicating effective learning strategies and active engagement with academic material, suggested a foundation for successful learning; this aligned with fundamental cognitive psychology principles that highlighted the role of effective information processing and memory strategies in academic achievement (Eysenck & Keane, 2020). Effective exam preparation and consistent review habits further supported this interpretation. These cognitive processing skills likely contributed to their overall academic performance and ability to learn effectively. While the scores were "Good," they indicated potential for further development of these cognitive strategies to enhance learning outcomes.

**Digital Reading Skill**

This section examined the digital reading skills of the student respondents. Effective digital reading was essential for navigating and comprehending online information, a crucial skill in today's digital learning environment. This data explored various aspects of digital reading competence to assess students' abilities to process and interpret information presented digitally.

Table 13. Digital Reading Skill

| **No** | **Indicators** | **x** | **SD** | **VD** |
|---|---|---|---|---|
| 1 | I will summarize the points and the structure of the article by drawing pictures or tables after reading. | 3.8 | 0.76 | GD |
| 2 | I get used to taking notes when I read books, newspaper and magazines. | 3.9 | 0.81 | GD |

| | | | | |
|---|---|---|---|---|
| 3 | When I read the newspaper and magazine, I can transfer the title of the article into questions, in order to guide the following reading | 3.7 | 0.87 | GD |
| 4 | When I learn a new article, I will read the after-class exercises previously, and then I read the article. | 3.7 | 0.88 | GD |
| 5 | After reading the text, I will try to answer the after-class exercises. | 3.7 | 0.78 | GD |
| 6 | I will regularly review the learning materials that I've seen before after reading. | 3.8 | 0.81 | GD |
| 7 | When I read the article, I can find out the key words, details and the main purpose of it. | 3.9 | 0.73 | GD |
| | Average | 3.8 | 0.80 | GD |
| **NB:** 4.20-5.00 Excellent (EX); 3.40-4.19 Good (GD); 2.60-3.39 Average (AV); 1.80-2.59 Poor (PR); 1.00-1.79 Very Poor (VP) | | | | |

The data concerning digital reading skills indicated a "Good" level of proficiency among the respondents, with an average score of 3.8 (SD = 0.80). Respondents demonstrated good abilities in summarizing articles ($\bar{x}$ = 3.8, SD = 0.76), note-taking while reading ($\bar{x}$ = 3.9, SD = 0.81), and formulating questions based on article titles ($\bar{x}$ = 3.7, SD = 0.87). They also reported good practices in reviewing after-class exercises before reading ($\bar{x}$ = 3.7, SD = 0.88), answering exercises after reading ($\bar{x}$ = 3.7, SD = 0.78), and regularly reviewing previously read material ($\bar{x}$ = 3.8, SD = 0.81). Finally, they exhibited good skills in identifying keywords, details, and the main purpose of an article ($\bar{x}$ = 3.9, SD = 0.73).

The 'Good' average score for digital reading skills among respondents, indicating effective strategies for engaging with and comprehending digital text, suggested a foundation for success in digital learning environments, which supported by research highlighting the importance of developing digital literacy strategies, including digital reading, for students in the digital age (Tohara et al., 2021). Their ability to summarize, take notes, and formulate guiding questions indicated active reading habits that promoted deeper understanding. Consistent review practices and engagement with after-class exercises further demonstrated a commitment to reinforcing learning. These skills are essential for success in digital learning environments, where students were frequently required to process information from various online sources. While demonstrating good digital reading competence, there was always potential for further refinement of these skills to maximize comprehension and critical analysis of online content.

**Time Management**

This section examined the time management skills of the student respondents. Effective time management was crucial for academic success, particularly when balancing studies with other commitments. This data explored students' abilities to plan, organize, and prioritize their time to understand its potential impact on their learning competence.

Table 14. Time Management

| No | Indicators | x | SD | VD |
|---|---|---|---|---|
| 1 | I will set a deadline for my learning task. | 4.0 | 0.74 | GD |
| 2 | I will check the completeness of the task in contrast to the plan when I finish the task. | 4.0 | 0.74 | GD |

| | | | | |
|---|---|---|---|---|
| 3 | I have a plan for the learning tasks that I have to finish every week. | 3.9 | 0.81 | GD |
| 4 | I have both short-term and long-term plan for my own study | 4.0 | 0.75 | GD |
| 5 | I will determine the sequence of tasks based on the importance and urgency of the task when drafting the task plan. | 4.0 | 0.76 | GD |
| 6 | I can finish the learning task arranged by teacher on time. | 3.8 | 0.84 | GD |
| | Average | 4.0 | 0.77 | GD |

**NB:** 4.20-5.00 Excellent (EX); 3.40-4.19 Good (GD); 2.60-3.39 Average (AV); 1.80-2.59 Poor (PR); 1.00-1.79 Very Poor (VP)

The data on time management revealed a "Good" level of skill among the respondents, with an average score of 4.0 (SD = 0.77). Respondents reported good practices in setting deadlines for learning tasks ($\bar{x}$ = 4.0, SD = 0.74), checking task completeness ($\bar{x}$ = 4.0, SD = 0.74), and planning weekly learning activities ($\bar{x}$ = 3.9, SD = 0.81). They also demonstrated good abilities in creating both short-term and long-term study plans ($\bar{x}$ = 4.0, SD = 0.75), prioritizing tasks based on importance and urgency ($\bar{x}$ = 4.0, SD = 0.76), and completing assigned tasks on time ($\bar{x}$ = 3.8, SD = 0.84). These results indicated a generally strong approach to managing time for academic work.

The 'Good' average score for time management among respondents, indicating effective strategies for organizing and prioritizing academic work, suggested a foundation for successful academic performance, a finding that reflected research highlighting the importance of time management as a self-regulated learning skill among college students (Wolters & Brady, 2021). Setting deadlines, checking task completeness, and planning weekly activities demonstrated proactive approaches to managing study time. The ability to create both short-term and long-term study plans, combined with prioritizing tasks based on importance and urgency, indicated a capacity for strategic planning. While completing assigned tasks on time was a positive indicator, the slightly lower score in this area suggested that some respondents may occasionally struggle with meeting deadlines. Overall, the data painted a picture of students who are generally well-equipped to manage their time effectively, though there may be areas for individual improvement.

**Peer Management**

This section explored the peer management skills of the student respondents. Effective peer management, encompassing positive interactions, collaboration, and conflict resolution with peers, was a crucial aspect of a positive learning environment. Understanding students' peer management skills provided insights into their ability to work effectively with others, which could impact both their academic and social success. This data examined various facets of peer interaction to assess students' capabilities in navigating peer relationships.

Table 15. Peer Management

| **No** | **Indicators** | **x** | **SD** | **VD** |
|---|---|---|---|---|
| 1 | I can put forward my opinion to my classmates in the group learning. | 4.0 | 0.77 | GD |
| 2 | I can actively coordinate to reach a consensus when the dispute appears in the group discussion. | 3.9 | 0.84 | GD |
| 3 | I can make clear my role and responsibilities when I am in the group activities. | 4.0 | 0.73 | GD |
| 4 | I can listen to my classmates in the group learning | 4.1 | 0.78 | GD |

| | | | | |
|---|---|---|---|---|
| 5 | I can always have some ways to make my classmates talk freely in the group learning. | 4.0 | 0.78 | GD |
| 6 | I will share the information collected by myself with my classmates in the study | 4.0 | 0.70 | GD |
| | Average | 4.0 | 0.77 | GD |

**NB:** 4.20-5.00 Excellent (EX); 3.40-4.19 Good (GD); 2.60-3.39 Average (AV); 1.80-2.59 Poor (PR); 1.00-1.79 Very Poor (VP)

The data on peer management indicated a "Good" level of skill among respondents, with an average score of 4.0 (SD = 0.77). Respondents demonstrated good abilities in expressing their opinions during group learning ($\bar{x}$ = 4.0, SD = 0.77), actively coordinating to reach consensus in group discussions ($\bar{x}$ = 3.9, SD = 0.84), and clarifying their roles and responsibilities in group activities ($\bar{x}$ = 4.0, SD = 0.73). They also reported good skills in listening to classmates ($\bar{x}$ = 4.1, SD = 0.78), facilitating open communication within groups ($\bar{x}$ = 4.0, SD = 0.78), and sharing collected information with peers ($\bar{x}$ = 4.0, SD = 0.70).

The 'Good' average score in peer management among respondents, indicating effective interpersonal skills for collaborative learning, suggested a foundation for productive teamwork. According to Hillier et al. (2019), research demonstrated the positive outcomes of peer mentoring programs for university students, highlighting the importance of collaborative skills for academic success. Active listening and facilitating open communication further contributed to a positive and collaborative learning environment. Sharing information with peers underscored a willingness to contribute to the collective learning process. While these skills were well-developed, continuous improvement in peer management could further enhance collaborative learning experiences and outcomes.

**Will Management**

This section explored the will management skills of the student respondents. Will management, encompassing self-discipline, motivation, and perseverance, was essential for academic success and the achievement of long-term goals. Understanding respondents' will management capacities provided insight into their ability to stay focused, overcome challenges, and maintain motivation in their studies, which can be influenced by various factors, including technology use. This data offered valuable context for interpreting the relationship between smartphone use and learning competence.

Table 16. Will Management

| **No** | **Indicators** | **x** | **SD** | **VD** |
|---|---|---|---|---|
| 1 | I think that as long as you spare no effort, I can acquire the knowledge. | 3.8 | 0.97 | GD |
| 2 | I think that as long as the method is appropriate, I can acquire the knowledge. | 4.0 | 0.72 | GD |
| 3 | As for me, achieving excellent scores makes me feel happiest. | 4.1 | 0.74 | GD |
| 4 | I'm interested in the learning content of the school. | 4.1 | 0.80 | GD |
| | Average | 4.0 | 0.81 | GD |

**NB:** 4.20-5.00 Excellent (EX); 3.40-4.19 Good (GD); 2.60-3.39 Average (AV); 1.80-2.59 Poor (PR); 1.00-1.79 Very Poor (VP)

The data on will management showed a "Good" level among respondents, with an average score of 4.0 (SD = 0.81). Respondents generally believed that effort leads to knowledge acquisition ($\bar{x}$ = 3.8, SD = 0.97) and that appropriate methods facilitated learning ($\bar{x}$ = 4.0, SD = 0.72). Achieving excellent scores was a significant motivator ($\bar{x}$ = 4.1, SD = 0.74), and respondents reported interest in the school's learning content ($\bar{x}$ = 4.1, SD = 0.80). These results suggested a generally positive attitude towards learning and a belief in the importance of effort and effective strategies.

The 'Good' average score for will management among respondents, indicating a positive attitude towards learning and a belief in the importance of effort, echoed established research demonstrating that intrinsic motivation and belief in the effectiveness of learning strategies were crucial for sustained academic effort and achievement (Ryan & Deci, 2020). Respondents demonstrated a strong belief that effort and appropriate methods were crucial for knowledge acquisition. The high value placed on achieving excellent scores indicated a strong intrinsic motivation for academic success. Furthermore, their reported interest in the school's learning content suggested a genuine engagement with the subject matter. These positive attitudes and beliefs were essential for sustained effort and effective learning.

**Test of Significance on the Relationship Between the Level Smartphone Distraction Experience and the Level of Digital Learning Competence of the Respondents**

This section presented the results of statistical tests examining the relationship between smartphone distraction experience and digital learning competence among the respondents. Understanding this relationship was crucial for determining whether and how smartphone distraction influenced students' abilities in the digital learning environment. The following analysis explored the statistical significance of any observed correlations.

Table 17 shows the relationship between attention impulsiveness and various digital learning competencies. The correlation coefficients range from r = 0.122 to r = 0.271, indicating weak relationships. Most correlations are statistically significant ($p < 0.05$), except for peer management ($p > 0.05$).

Table 17. Attention Impulsiveness and Level of Digital Learning Competencies

| Variables under inference | r-value | Strength of Correlation | p-value | Decision | Results |
|---|---|---|---|---|---|
| Attention impulsiveness & Technology Use | 0.188 | weak | 0.025 | Reject Ho | Significant correlation |
| Attention impulsiveness & Cognitive Processing | 0.245 | Weak | 0.003 | Reject Ho | Significant correlation |
| Attention impulsiveness & Digital Reading Skill | 0.245 | Weak | 0.003 | Reject Ho | Significant correlation |
| Attention impulsiveness & Time Management | 0.271 | Weak | 0.001 | Reject Ho | Significant correlation |
| Attention impulsiveness & Peer Management | 0.122 | Weak | 0.148 | Fail to reject Ho | No significant correlation |
| Attention impulsiveness & Will Management | 0.219 | Weak | 0.009 | Reject Ho | Significant correlation |
| *Significant at p<0.05 (two-tailed test) | | | | | |

These results indicate that attention impulsiveness is weakly associated with technology use, cognitive processing, digital reading skills, time management, and will management. However, given the small

magnitude of these correlations, they explain less than 9% of the variance, suggesting minimal practical impact. This implies that attention impulsiveness may be only one of several factors related to digital learning competence.

The absence of a significant relationship with peer management suggests that attention impulsiveness is not consistently related across all domains of digital competence. Overall, the findings highlight limited associations rather than strong predictive relationships.

Given the weak magnitude of the observed relationships, the findings do not strongly support the need for targeted interventions based solely on attention impulsiveness. However, the results may suggest that attention-related factors are modestly associated with certain aspects of digital learning competence. This is broadly consistent with Muir et al. (2023), who emphasized the role of self-regulation in learning processes, although the present findings indicate that such influences are limited in strength. The non-significant relationship with peer management further suggests that attention impulsiveness does not consistently relate to all domains, indicating that other variables may better explain differences in this area.

Moreover, as can be gleaned, Table 18 presents the relationship between online vigilance and digital learning competencies. The correlation coefficients range from r = 0.157 to r = 0.347, indicating weak to moderate relationships. Most correlations are statistically significant ($p < 0.05$), except for technology use.

Table 18. Online Vigilance and Level of Digital Learning Competencies

| **Variables under inference** | **r-value** | **Strength of Correlation** | **p-value** | **Decision** | **Results** |
|---|---|---|---|---|---|
| Online Vigilance & Technology Use | 0.157 | Weak | 0.063 | Fail to reject Ho | No significant correlation |
| Online Vigilance & Cognitive Processing | 0.253 | Weak | 0.002 | Reject Ho | Significant correlation |
| Online Vigilance & Digital Reading Skill | 0.347 | Moderate | 0.000 | Reject Ho | Significant correlation |
| Online Vigilance & Time Management | 0.192 | Weak | 0.023 | Reject Ho | Significant correlation |
| Online Vigilance & Peer Management | 0.223 | Weak | 0.008 | Reject Ho | Significant correlation |
| Online Vigilance & Will Management | 0.305 | Weak | 0.000 | Reject Ho | Significant correlation |
| *Significant at p<0.05 (two-tailed test) | | | | | |

The strongest relationship is observed with digital reading skill (r = 0.347), which approaches a moderate level. However, this correlation explains only about 12% of the variance, indicating that other factors likely contribute more substantially to this competency. The remaining relationships are weak, suggesting limited explanatory power.

Overall, online vigilance appears to be associated with several aspects of digital learning competence, but the strength of these associations remains modest. The non-significant relationship with technology use further indicates that online vigilance is not consistently linked across all domains.

Given the modest strength of the correlations, the findings suggest that online vigilance is only weakly to

moderately associated with selected aspects of digital learning competence. While some relationship is evident, particularly with digital reading skill, the overall explanatory power remains limited. This interpretation partially aligns with Kozyreva, Lewandowsky, and Hertwig (2020), who highlighted the importance of cognitive skills in navigating digital information; however, the present results indicate that such relationships are not substantial. The lack of a significant association with technology use further supports the view that online vigilance is not a consistent predictor across all domains.

Table 19. Emotion Regulation and Level of Digital Learning Competencies

| **Variables under inference** | **r-value** | **Strength of Correlation** | **p-value** | **Decision** | **Results** |
|---|---|---|---|---|---|
| Emotion Regulation & Technology Use | 0.134 | Weak | 0.114 | Fail to reject Ho | No significant correlation |
| Emotion Regulation & Cognitive Processing | 0.221 | Weak | 0.008 | Reject Ho | Significant correlation |
| Emotion Regulation & Digital Reading Skill | 0.216 | Weak | 0.010 | Reject Ho | Significant correlation |
| Emotion Regulation & Time Management | 0.283 | Weak | 0.001 | Reject Ho | Significant correlation |
| Emotion Regulation & Peer Management | 0.256 | Weak | 0.002 | Reject Ho | Significant correlation |
| Emotion Regulation & Will Management | 0.314 | Weak | 0.000 | Reject Ho | Significant correlation |
| *Significant at $p<0.05$ (two-tailed test) | | | | | |

As for these results, Table 19 shows the relationship between emotion regulation and digital learning competencies. The correlation coefficients range from $r = 0.216$ to $r = 0.314$, indicating weak positive relationships. Most correlations are statistically significant ($p < 0.05$), except for technology use.

These findings suggest that emotion regulation is associated with cognitive processing, digital reading, time management, peer management, and will management, but the effect sizes remain small. Most correlations explain less than 10% of the variance, indicating limited practical significance.

The absence of a significant relationship with technology use suggests that emotion regulation is not directly linked to all aspects of digital competence. Overall, the results indicate modest associations rather than strong relationships.

Considering the weak correlations observed, emotion regulation appears to have only a modest association with digital learning competencies. While students with better emotion regulation tend to report slightly higher competence, the effect sizes suggest limited practical significance. This finding is generally consistent with Bettis et al. (2022), who discussed the relevance of emotion regulation in learning contexts; however, the present study indicates that its contribution is relatively small within digital learning competence. The absence of a significant relationship with technology use further implies that emotional factors may not directly relate to technical aspects of digital engagement.

Table 20. Multitasking and Level of Digital Learning Competencies

| **Variables under inference** | **r-value** | **Strength of Correlation** | **p-value** | **Decision** | **Results** |
|---|---|---|---|---|---|
| Multitasking & Technology Use | 0.238 | Weak | 0.005 | Reject Ho | Significant correlation |
| Multitasking & Cognitive Processing | 0.313 | Weak | 0.000 | Reject Ho | Significant correlation |

| | | | | | |
|---|---|---|---|---|---|
| Multitasking & Digital Reading Skill | 0.221 | Weak | 0.009 | Reject Ho | Significant correlation |
| Multitasking & Time Management | 0.257 | Weak | 0.002 | Reject Ho | Significant correlation |
| Multitasking & Peer Management | 0.187 | Weak | 0.027 | Reject Ho | Significant correlation |
| Multitasking & Will Management | 0.379 | Moderate | 0.000 | Reject Ho | Significant correlation |
| *Significant at $p<0.05$ (two-tailed test) | | | | | |

Table 20 examines the relationship between multitasking and digital learning competencies. The correlation coefficients range from $r = 0.187$ to $r = 0.379$, indicating weak to moderate relationships, with all correlations statistically significant ($p < 0.05$).

The strongest relationship is observed with will management ($r = 0.379$), which explains approximately 14% of the variance, representing a modest association. All other correlations are weak, suggesting limited practical significance.

These findings indicate that multitasking is associated with various digital learning competencies; however, the strength of these relationships is generally low. Importantly, these results should not be interpreted as evidence that multitasking enhances digital learning competence, as the correlational design does not establish causation.

Overall, the weak nature of most correlations suggests that multitasking is only one of many factors related to digital learning competence, and other variables may play a more substantial role.

Although multitasking showed statistically significant relationships with all competencies, the generally weak correlations indicate limited explanatory power. The moderate association with will management represents the strongest relationship observed, yet it still reflects only a modest effect. These findings should be interpreted cautiously and do not suggest that multitasking leads to improved digital learning competence. This perspective aligns with Niu et al. (2022), who emphasized the complex and multifactorial nature of digital learning, where multiple variables interact to shape outcomes. Therefore, multitasking should be considered as one of several associated factors rather than a primary contributor.

## CONCLUSION

This study examined the relationship between smartphone distraction and the digital learning competence of BTLED Evening Program students at Cebu Technological University–Main Campus during the academic year 2024–2025. Findings confirmed that students experienced notable levels of smartphone-related distractions, particularly in terms of attention impulsiveness, emotional reliance on devices, and multitasking behaviors, which influenced their ability to maintain focus and manage academic tasks effectively.

Despite these challenges, students demonstrated generally strong digital learning competence, especially in technology use, cognitive processing, and digital reading skills. They were able to navigate digital platforms, comprehend and synthesize information, and apply learning strategies effectively, although some aspects such as time management and peer collaboration required further improvement.

However, several concerns continue to affect optimal learning engagement. These include frequent exposure to smartphone notifications, dependence on devices for emotional regulation, and habitual multitasking, all of which may reduce sustained attention and academic efficiency.

The analysis further revealed weak to moderate relationships between smartphone distraction and digital learning competence. Attention impulsiveness showed a negative influence on learning performance, while multitasking presented a minimal yet notable positive association with self-regulation and will management.

Collectively, the results highlight the complex role of smartphones in students' academic lives, serving both as tools for learning and sources of distraction. The findings underscore the importance of implementing targeted guidance and intervention programs that promote responsible smartphone use, strengthen self-regulation skills, and enhance students' ability to manage digital distractions, ultimately supporting improved learning outcomes in the digital age.

## RECOMMENDATIONS

Based on the findings and conclusions of this study, it is recommended that Cebu Technological University–Main Campus implement a comprehensive digital learning competence–related career guidance program for BTLED Evening Program students. This program should include structured guidance and counseling sessions to raise awareness about smartphone distractions and foster digital self-regulation, workshops on study-life balance to help students manage academic responsibilities while minimizing digital interruptions, and stakeholder orientations to ensure faculty and program heads actively support and reinforce intervention strategies. Additionally, continuous evaluation and progress monitoring should be conducted to assess changes in students' smartphone-use behaviors and the effectiveness of interventions. To further enhance digital learning outcomes, the university may also consider integrating digital literacy modules into the curriculum, promoting peer support mechanisms, and providing access to tools or applications that encourage focused and productive learning. These initiatives aim to reduce the negative impact of smartphone distractions, strengthen students' time-management skills, and optimize their overall academic performance and digital learning competence.

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