

1 **Original Research Article**

2
3 **ACADEMIC MOTIVATION AND COGNITIVE**
4 **ABILITIES AS PREDICTORS OF ENGLISH**
5 **LANGUAGE PROFICIENCY AMONG**
6 **SENIOR HIGH SCHOOL STUDENTS**
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11
12 **ABSTRACT**
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This study aimed to determine whether academic motivation and cognitive abilities significantly predict English language proficiency among senior high school students in a public secondary institution in Davao City, Philippines. Employing a descriptive-correlational research design, standardized questionnaires were administered through face-to-face surveys to 209 students. The mean, standard deviation (SD), Pearson product-moment correlation, as well as simple and multiple linear regression analyses were utilized for data analysis. The findings revealed that while the academic motivation of the students was described as extensive, their cognitive abilities and English language proficiency were described as moderately extensive. Correlation analysis indicated significant relationships between academic motivation, cognitive abilities, and English language proficiency. Furthermore, there was a significant combined influence of academic motivation and cognitive abilities on English language proficiency among senior high school students. It is recommended to focus on enhancing both academic motivation and cognitive skills to improve English language proficiency further. Collaborative interventions targeting these areas can effectively support students in achieving greater proficiency in English.

14
15 *Keywords: Academic Motivation, Cognitive Abilities, English Language Proficiency, Senior*
16 *High School, Descriptive Correlational, Davao City, Education, Philippines*
17

18 **1. INTRODUCTION**

19 Statistics from diverse countries highlight a growing challenge in nurturing language
20 proficiency among students. According to the Programme for International Student
21 Assessment (PISA) conducted by the Organization for Economic Co-operation and
22 Development (OECD) [1], a significant proportion of students globally struggle with applying
23 macro skills to real-world situations. For instance, for every 100 students who participated in
24 the assessment, only nine could understand long texts, grasp ideas that are hard to
25 understand and tell the difference between facts and opinions using hints in the text or
26 where the information comes from. The 2018 PISA results indicated that 23% of the students
27 could not figure out the main point in a moderately long text, locate information using clear
28 but sometimes tricky instructions, and think about why and how texts are written when they
29 were specifically told to do so.

30 **Recognized as one of the largest English-speaking nations**, the Philippines boasts a
31 significant population with some level of English proficiency. However, there has been a
32 noticeable decline in English language proficiency, as evidenced by the annual EF English
33 Proficiency Index. This decline is evident when comparing rankings over the past few years.

34 In 2018, the Philippines was ranked 14th, but by 2019, it had slipped to the 20th position. In
35 2020, the ranking further declined to 27th. While there was a slight improvement in 2021,
36 with the Philippines rising to the 18th position, it remains distant from its 13th ranking in
37 2016. A noteworthy article published by GMA News and PhilStar Global in February 2018
38 highlighted the concerning trend that the English proficiency level of college graduates in the
39 Philippines falls below the target proficiency level for high school students in Thailand [2].

40 In a study conducted among first-year college students in selected higher education
41 institutions in the province of Davao del Norte, it was found that the level of exposure to the
42 English linguistic environment of the students was moderate, and their level of oral
43 proficiency in terms of comprehension, fluency, grammar, pronunciation and vocabulary was
44 low [3]. Similarly, senior high school students enrolled in three academic institutions in
45 Davao City demonstrated only moderate levels of speaking, listening, reading, and writing
46 [4]. Among the top reasons for language difficulties were the difficulty in explaining ideas
47 using the English language and the inability to comprehend the customs, attitudes, and
48 social circumstances of the native speakers of English.

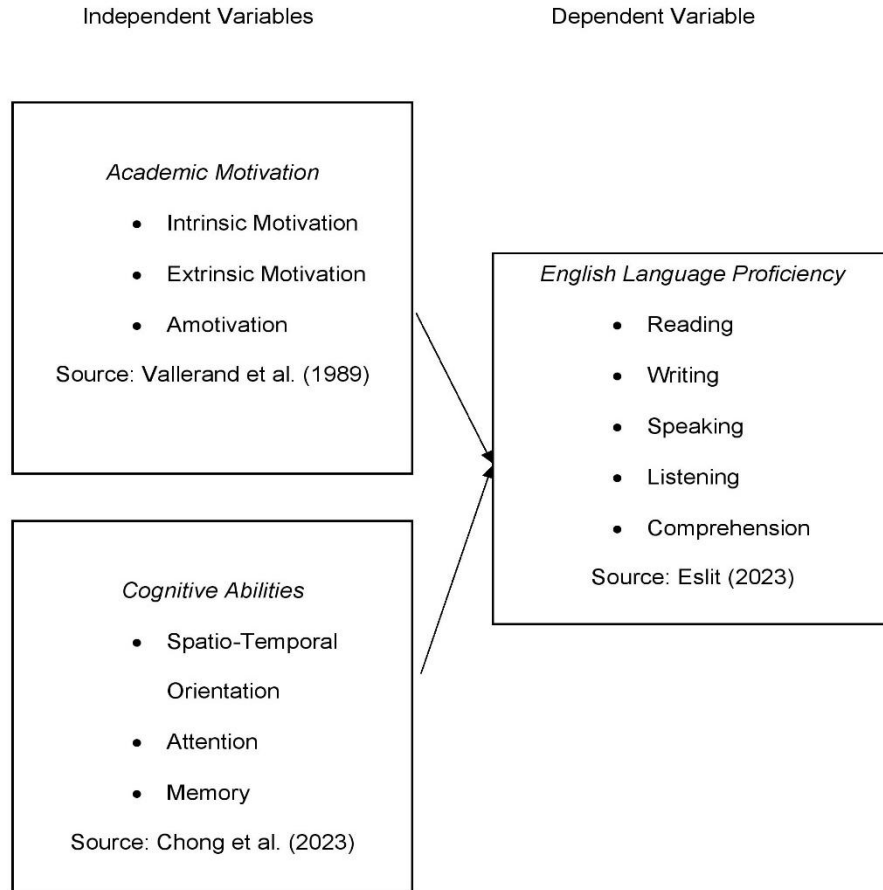
49 English language proficiency was closely linked to cognitive abilities involving thinking,
50 reasoning, and problem-solving skills. The ability to process information effectively and make
51 connections between concepts aids in language comprehension and use. Research by
52 various scholars emphasized the relationship between cognitive abilities, positive attitudes
53 toward learning, and language proficiency, highlighting that students who possess strong
54 cognitive skills and maintain a favourable attitude toward English tend to perform better in
55 language assessments [5, 6, 7].

56 Despite the valuable insights provided by previous research on the influence of academic
57 motivation and cognitive abilities on English language proficiency, a notable research gap
58 persists. Many existing studies have primarily focused on individual aspects of these factors
59 or have examined their impact in broader educational settings, often overlooking the specific
60 context of senior high school students. There is a need for more comprehensive
61 investigations that explore the intricate interplay between academic motivation and cognitive
62 abilities within the unique environment of senior high schools. Additionally, while previous
63 research has highlighted the importance of these factors in enhancing language proficiency,
64 there remains a scarcity of studies that delve into the combined effects and interrelationships
65 between academic motivation and cognitive abilities on students' English language skills,
66 especially in the local context.

67 English is one of the most difficult subjects in the elementary and secondary levels of
68 education in the Philippines. Even before the pre-COVID-19 era, this subject has been the
69 source of teaching and learning difficulties in educational institutions. The researcher, being
70 an English teacher in a public senior high school institution in Davao City, is in a dilemma of
71 determining what factors can improve the English language proficiency of the students in
72 order to enhance their overall academic performance and future opportunities. Therefore,
73 this study aims to determine the English language proficiency of senior high school students
74 in selected public schools in Davao City and describe how academic motivation and
75 cognitive abilities affect it. Understanding how these factors interact and influence language
76 proficiency can provide valuable insights into the development of effective strategies and
77 interventions to empower students with the language skills they need to succeed
78 academically and in their future endeavours.

79 Figure 1 shows the conceptual framework of the study. The independent variables include
80 academic motivation and cognitive abilities while the dependent variable involves English

81 language proficiency. It is assumed that academic motivation and cognitive abilities are
82 related to English language proficiency based on the literature.
83



84

85 **Figure 1. Conceptual Framework of the Study**
86

87 **2. METHODOLOGY**

88

89 **2.1 Research Design**

90

91 This study utilized the quantitative approach, particularly a descriptive-correlational research
92 design, which falls under non-experimental research. Quantitative research is a systematic
93 empirical approach to investigating phenomena through collecting and analyzing numerical
94 data. It is a widely used research methodology in various disciplines, including psychology,
95 sociology, economics, and natural science. Non-experimental research, such as descriptive-
96 correlational design, focuses on observing and analyzing existing relationships without
97 manipulating variables. Quantitative research, whether experimental or non-experimental, is

98 characterized by its emphasis on objectivity, measurement, and statistical analysis, making it
99 a valuable tool for understanding complex relationships, patterns, and trends [8].

100 On the other hand, the descriptive design was used to describe the respondents' extent of
101 academic motivation, cognitive abilities, and language proficiency. Descriptive design can
102 accurately and systematically describe characteristics of a population, situation, or
103 phenomenon that are being studied such as the variables used in this study. Describing the
104 characteristics of these variables is important to gather information and identify the level of
105 the variables identified. Moreover, the correlation design was used to describe the
106 relationships between the study variables. This paper established this design to ascertain
107 the degree of influence of academic motivation, cognitive abilities, and language proficiency
108 [9].

109 **2.2 Research Respondents**

110
111 The study encompassed a total of 209 senior high school students in a public secondary
112 institution. The population size of respondents from each participating school was
113 determined using Slovin's formula. To ensure the reliability of the results, the study
114 employed a 95% confidence interval with a 5% margin of error. In order to enhance sample
115 homogeneity, specific inclusion criteria were applied. Firstly, the students had to officially
116 enroll in a public senior high school for the academic year 2023-2024. Secondly, they had to
117 be enrolled in at least one English subject.

118 Stratified random sampling was used in this study, involving dividing the population into
119 smaller sub-groups formed based on members' shared attributes or characteristics.
120 Moreover, stratified sampling is a statistical technique used in research and data analysis to
121 ensure that a sample drawn from a population accurately represents different subgroups or
122 strata within that population. It involved dividing the population into distinct, non-overlapping
123 subgroups or strata based on certain characteristics or attributes relevant to the research
124 objectives. Samples were then independently and randomly selected from each stratum in
125 proportion to their size within the overall population [10]. Since the population under study
126 had varied characteristics, this sampling technique obtained a sample that best represented
127 the studied population.

128 In this study, the population was divided into two phases. Phase 1 allowed the learners to be
129 divided into Grade 11 and Grade 12 levels. Phase 2 further divided each learner into four
130 academic strands, namely, the HUMSS and TVL. These two phases of sample division were
131 necessary to ensure an equal representation of the sample in each academic strand per
132 grade level.

133 **2.3 Research Instruments**

134 The instrument used for this study was composed of four parts, namely, the academic
135 motivation scale, cognitive abilities self-assessment scale, and English language proficiency
136 questionnaire. These instruments were carefully chosen based on published related studies
137 and literature.

138 On the other hand, the researcher invited experts to validate the questionnaires. Five
139 experts were asked to assess the content validity of the survey questionnaire to ensure its
140 readability and comprehensibility. Revisions to the questionnaire were done in accordance
141 with the possible suggestions of the expert-validators [11].
142

143 A 28-item Academic Motivation Scale High School Version measured the first part of the
144 questionnaire. The scale has three dimensions, namely, intrinsic motivation, extrinsic
145 motivation, and amotivation. The scale was constructed by Vallerand [12]. Moreover, the
146 Academic Motivation questionnaire demonstrated good reliability in this study, with a
147 Cronbach's alpha value of 0.86.
148

149 The second part of the questionnaire was adopted from the psychometric properties of the
150 Cognitive Abilities Self-Assessment Scale by Chung et al. [13] consisting of 18 questions.
151 The scale has three dimensions: spatio-temporal orientation, attention, and memory.
152 Furthermore, the Cognitive Abilities questionnaire demonstrated excellent reliability in this
153 study, with a Cronbach's alpha value of 0.95.
154

155 The third part was adopted from the Eslit[14] questionnaire on English Language
156 Proficiency, consisting of 50 questions. The scale has five dimensions, namely, reading,
157 writing, speaking, listening and comprehension. Moreover, the English Language
158 Proficiency questionnaire demonstrated excellent reliability in this study, with a Cronbach's
159 alpha value of 0.98.
160

161 **2.4Data Analysis**

162 In analyzing and interpreting the data gathered for this study, the following statistical tools
163 were employed:

164 Mean. This was used to determine the respondents' extent of academic motivation, cognitive
165 abilities, and language proficiency.

166 Standard Deviation. This was used to determine how spread out, how far, or how close the
167 students' responses were in relation to the mean.

168 Pearson-r Moment Correlation. This was used to determine the significant relationship
169 among the respondents' academic motivation, cognitive abilities, and language proficiency.

170 Multiple Linear Regression. This was used to determine whether the respondents' academic
171 motivation and cognitive abilities would significantly predict their language proficiency.
172

173 **2.5Ethical Consideration**

174 In this study, the researcher adhered to the ethical principles of research outlined in the
175 Graduate School Research Manual. The researcher secured an institutional ethics
176 certification with certificate number 203-01-20-24 to ensure compliance with ethical
177 standards. The respondents were provided a copy of the informed consent, which they
178 thoroughly read and understood before voluntarily agreeing to participate. They were also

179 informed of their right to withdraw from the study at any time, with no requirement for
180 justification, and the researcher duly retracted any withdrawn data.

181 Additionally, the researcher was the sole individual with access to the information and data
182 gathered from the respondents. To maintain anonymity, personal details such as age and
183 gender were not collected, and the identities of both respondents and schools were kept
184 confidential in any publication arising from this research. Furthermore, the researcher
185 declared the absence of any potential conflicts of interest, whether financial, proprietary, or
186 commercial, with the sponsor, respondents, or the study site.

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189 **3. RESULTS AND DISCUSSION**

190

191 **3.1 Extent of Academic Motivation among Senior High School Students**

192

193 **Table 1.** *Extent of Academic Motivation among Senior High School Students*

194

Indicators	SD	Mean	Descriptive Level
Intrinsic Motivation	0.88	4.08	Extensive
Extrinsic Motivation	0.90	4.18	Extensive
Amotivation	1.34	3.07	Moderately Extensive
Overall	1.06	3.96	Extensive

195

196 Table 1 presents the summary of indicators in the extent of academic motivation among
197 senior high school students. It has garnered an extensive overall mean rating of 3.96 with
198 the mean rating of the different indicators ranging from 3.07 to 4.18. This implied that the
199 respondents were often motivated. The indicator “Amotivation” had a mean rating of 3.07,
200 while the “Extrinsic Motivation” had a mean rating of 4.18. The overall standard deviation of
201 1.06, being higher than 1, indicated that the ratings were spread out over a wider range
202 around the mean.

203

204 Previous research by Ryan and Deci [15] provided valuable insights into the factors
205 influencing academic motivation among high school students. Their study highlighted the
206 importance of intrinsic, extrinsic, and amotivation in shaping students' engagement and
207 achievement in academic tasks. Furthermore, Tuominen et al. [16] suggested that students
208 who perceive themselves as competent, find value in academic tasks, and adopt mastery-
209 oriented goals are more likely to exhibit higher levels of academic motivation. Moreover,
210 Gbollie and Keamu[17] highlighted the importance of goal setting, monitoring progress, and
211 employing effective learning strategies in enhancing students' academic motivation and
212 performance.

213

214 **3.2 Extent of Cognitive Abilities among Senior High School Students**

215

216 **Table 2.** *Extent of Cognitive Abilities among Senior High School Students*

217

Indicators	SD	Mean	Descriptive Level
Spatio-Temporal Orientation	1.16	2.57	Less Extensive
Attention	1.24	2.70	Moderately Extensive
Memory	1.04	3.05	Moderately Extensive
Overall	1.17	2.77	Moderately Extensive

218

219 Table 2 presents the summary of indicators in the extent of cognitive abilities among senior
 220 high school students. It has garnered a moderately extensive overall mean rating of 2.77,
 221 with the mean rating of the different indicators ranging from 2.57 to 3.05. This implied that the
 222 cognitive abilities of the respondents were sometimes observed. The indicator "Spatio-
 223 Temporal Orientation" had a mean rating of 2.57, while the "Memory" had a mean rating of
 224 3.05. The overall standard deviation of 1.17, being higher than 1, indicated that the ratings
 225 were spread out over a wider range around the mean.
 226

227 This finding supports the argument of Keen et al. [18] who suggested that cognitive abilities
 228 among senior high school students varied, with some demonstrating strengths in certain
 229 areas while others exhibiting weaknesses. Additionally, Bardach and Klassen [19]
 230 suggested that students with stronger cognitive abilities tended to perform better
 231 academically, as they effectively utilized cognitive processes such as attention, memory, and
 232 problem-solving skills to achieve academic success. Moreover, Laube et al. [20] emphasized
 233 that cognitive abilities undergo significant changes and improvements throughout
 234 adolescence, influenced by factors such as brain development and environmental
 235 experiences. By recognizing the dynamic nature of cognitive abilities, educators can
 236 implement targeted interventions to support students' cognitive development and enhance
 237 their academic achievement in the senior high school context.
 238

239 3.3 Extent of English Language Proficiency among Senior High School 240 Students

241
 242 **Table 3.** *Extent of English Language Proficiency among Senior High School Students*
 243

Indicators	SD	Mean	Descriptive Level
Reading	0.92	3.54	Extensive
Writing	0.90	3.31	Moderately Extensive
Speaking	0.97	3.20	Moderately Extensive
Listening	0.92	3.43	Extensive
Comprehension	0.88	3.44	Extensive
Overall	0.93	3.38	Moderately Extensive

244
 245 Table 3 presents the extent of English language proficiency among senior high school
 246 students. It has garnered a moderately extensive overall mean rating of 3.38, with the mean
 247 rating of the different indicators ranging from 3.20 to 3.54. This implied that the respondents'
 248 English language proficiency was sometimes observed. The indicator "Speaking" showed a
 249 mean rating of 3.20, while the indicator "Reading" showed a mean rating of 3.54. The overall
 250 standard deviation of 0.93, being less than 1, indicated that the ratings were tightly clustered
 251 around the mean.
 252

253 In a comprehensive study conducted by Aizawa et al. [21] revealed a moderate level of
 254 English language proficiency among the student population, with many demonstrating
 255 competency in basic communication skills but requiring further development in complex
 256 linguistic tasks. Building upon this research, Washington-Nortey et al. [22] highlighted the
 257 disparities in language acquisition experiences and the impact of socioeconomic factors on
 258 students' language development. While many students exhibited a moderate level of English
 259 proficiency, they found that access to resources, exposure to English-speaking
 260 environments, and quality of language instruction significantly influenced students' language
 261 abilities. Additionally, Téllez and Manthey [23] investigated the effectiveness of language
 262 acquisition programs to enhance English language proficiency among English language
 263 learners (ELLs). Their findings indicated that while these programs contributed to

264 improvements in students' English language proficiency, the level of proficiency achieved
265 varied, with many ELLs attaining a moderate level of proficiency over time.

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272 **3.4 Significance of Relationship between Academic Motivation, Cognitive** 273 **Abilities and English Language Proficiency**

274
275 **Table 4.** *Significance of the Relationship between Academic Motivation, Cognitive Abilities*
276 *and English Language Proficiency*
277

	English Language Proficiency		
	R	p-value	Remarks
Academic Motivation	0.402	0.000	Significant
Cognitive Abilities	0.237	0.001	Significant

278
279

280 Table 4 shows that academic motivation was significantly related to English language
281 proficiency, with an R-value of 0.402. Also, it reflects a p-value of .000, which is less than the
282 alpha set at .05 (two-tailed), supporting a significant relationship. It means that as the extent
283 of academic motivation increases, the extent of English language proficiency of students
284 also significantly increases. In similar manner, cognitive abilities revealed a significant
285 positive relationship with English language proficiency ($r = 0.237, p < 0.05$). It means that as
286 the extent of cognitive abilities increases, the extent of English language proficiency of
287 students significantly increases.

288

289 The finding of a significant connection between academic motivation and English language
290 proficiency among students aligns with Vygotsky's [24] Sociocultural Theory. This theory
291 emphasizes the role of social interactions and cultural contexts in cognitive development,
292 including language acquisition.

293

294 Building on this theory, Chen et al. [25] investigated this connection in a study of secondary
295 school students and confirmed a significant positive correlation: students with higher
296 academic motivation were more engaged in language learning activities. This active
297 participation, driven by strong motivation, led students to leverage social interactions with
298 peers and educators to enhance their language skills. Engaging in communicative tasks
299 fostered language development by providing opportunities for meaningful language use and
300 negotiation of meaning within social contexts.

301

302 Furthermore, Chen [26] observed that motivated students benefited from scaffolded support
303 from teachers and peers, aligning with Vygotsky's concept of the Zone of Proximal
304 Development (ZPD). Through collaborative interactions and guided instruction, students
305 were able to access linguistic resources beyond their current proficiency levels, leading to
306 accelerated language learning and proficiency growth.

307

308 The positive correlation between students' cognitive abilities and English language
 309 proficiency strengthens the tenets of Cognitive Load Theory [27]. Language learning
 310 inherently demands significant cognitive resources. Students with higher cognitive abilities
 311 are better equipped to handle this load, effectively juggling the complexities of a new
 312 language. This includes simultaneously acquiring vocabulary, comprehending grammar
 313 rules, and filtering out distractions. Consequently, stronger cognitive abilities can facilitate
 314 more effective language learning.

315
 316

317 **3.5 Significance of the Influence of Academic Motivation, and Cognitive** 318 **Abilities on English Language Proficiency**

319

320 **Table 5.** *Significance of the Influence of Academic Motivation, and Cognitive Abilities on*
 321 *English Language Proficiency*

322

English Language Proficiency				
Singular Influence of the Predictors	Standardized Coefficients	T	p-value	Remarks
Academic Motivation	0.377	5.158	0.000	Significant
Cognitive Abilities	0.053	0.724	0.470	Not Significant
Combined Influence of the Predictors				
R	0.405			
R ²	0.164			
F	20.220			
P	0.000			Significant

323

324 Table 16 shows the results of the multiple regression analysis. In singular capacity, the
 325 academic motivation shows a p-value of 0.000, which is less than 0.05 level of significance
 326 (2-tailed) with a positive standardized beta value of 0.377. It means that for every unit
 327 increase in the value of the level of academic motivation, there is a corresponding increase
 328 of 0.377 in the level of English language proficiency among students.

329 Likewise, the independent variable, cognitive abilities, reflect a positive standardized beta
 330 value of 0.053 and a p-value of 0.470, greater than the 0.05 level of significance (2-tailed).
 331 This means that in a singular capacity, the level of cognitive ability is not a significant
 332 predictor of the level of English language proficiency among students.

333 In addition, the combined influence of the two independent variables, academic motivation
 334 and cognitive abilities toward English language proficiency was significant ($F=20.22, p<.05$).
 335 Meanwhile, the model explains 16 percent of the variance of English language proficiency
 336 based on the independent variables included in this study as indicated by $R^2= 0.16$. This
 337 means that 84 percent of the variance in English language proficiency can be attributed to
 338 other factors aside from academic motivation and cognitive abilities.

339 The finding about academic motivation as a significant predictor of English language
 340 proficiency replicates the findings of Rose et al. [28] in their longitudinal study involving a
 341 large sample of high school students. They found that students' academic motivation levels,

342 as measured by self-reported interest in English classes and willingness to engage in
343 language learning activities, significantly predict English language proficiency scores. Peng
344 and Patterson [29] also found that students who exhibited higher levels of intrinsic motivation
345 towards English learning made greater gains in language proficiency over time than their
346 less motivated peers.

347 Further, supporting the notion that cognitive abilities do not significantly influence English
348 language proficiency, El Soufi and See [30] found in their study that cognitive abilities do not
349 significantly predict English language proficiency among adult learners. Galla et al. [31]
350 identified a possible explanation for this unexpected finding: language learning is a highly
351 complex and multifaceted process that involves more than just cognitive abilities. Factors
352 such as motivation, exposure to the language, and individual learning strategies may play
353 equally if not more, important roles in determining language proficiency outcomes.

354

355 **4. SUMMARY OF FINDINGS**

356

357 This study aimed to determine if academic motivation and cognitive abilities significantly
358 predict English language proficiency among senior high school students in public secondary
359 institutions in Davao City. Five specific objectives were set to accomplish the general
360 objective of the study. First, the study determined the extent of academic motivation in terms
361 of intrinsic, extrinsic, and amotivation. Second, the study determined the extent of cognitive
362 abilities in terms of spatio-temporal orientation, attention, and memory. Third, the study
363 determined the extent of English language proficiency in terms of reading, writing, speaking,
364 listening and comprehension. Fourth, the study determined the significance of the
365 relationship between academic motivation, cognitive abilities on English language
366 proficiency. Finally, the study determined the significance of the singular and combined
367 influence of academic motivation and cognitive abilities on English language proficiency.
368 Utilizing a descriptive-correlational research design, a total of 209 senior high school
369 students from a secondary education institution in Davao City, Philippines, were surveyed
370 using standardized questionnaires administered through face-to-face survey. The mean,
371 standard deviation (SD), Pearson product-moment correlation, as well as simple and
372 multiple linear regression analyses were employed to analyze the collected data.

373 From the data gathered, the following findings were drawn:

374 The extent of academic motivation among senior high school students obtained an overall
375 mean of 3.96, described as extensive, and a standard deviation of 1.06. The indicators,
376 intrinsic motivation, extrinsic motivation and amotivation, showed a mean of 4.08, 4.18 and
377 3.07, respectively.

378 Moreover, the extent of cognitive abilities among senior high school students obtained an
379 overall mean of 2.77, described as moderately extensive and had a standard deviation of
380 1.17. The indicators, spatio-temporal orientation, attention and memory, showed a mean of
381 2.57, 2.70 and 3.05, respectively.

382 Furthermore, the extent of English language proficiency among senior high school students
383 obtained an overall mean of 3.38, described as moderately extensive. The indicators,
384 reading, writing, speaking, listening and comprehension, showed a mean of 3.54, 3.31, 3.20,
385 3.43, and 3.44, respectively.

386 Additionally, the correlation between academic motivation and English language proficiency
387 obtained an r-value of 0.402, which was significant ($p=0.000$) at a 0.05 alpha level of
388 significance. Meanwhile, the correlation between cognitive abilities and English language

389 proficiency obtained an r-value of 0.237, which was significant ($p=0.001$) at a 0.05 alpha
390 level of significance.

391 Finally, when the singular influence of the independent variables on the dependent variable
392 was determined, academic motivation ($\beta=0.377$, $p=0.000$) significantly influenced English
393 language proficiency. However, cognitive abilities ($\beta=0.053$, $p=0.470$) did not significantly
394 influence English language proficiency. When the combined influence of the independent
395 variables on the dependent variable was examined, both academic motivation and cognitive
396 abilities ($F=20.22$, $p<0.05$) significantly influenced English language proficiency.

397 **5. CONCLUSIONS**

398 Based on the findings of the study, the following conclusions were formulated:

399 The academic motivation of senior high school students is often observed. This implies that
400 students are actively engaged and committed to their learning goals, which can lead to
401 higher levels of achievement and success in their academic endeavors.

402 The cognitive abilities of the senior high school students are sometimes observed. This
403 implies that while some students may excel in these areas, others may require additional
404 support or development to enhance their cognitive abilities.

405 The English language proficiency of the senior high school students is sometimes observed.
406 This implies that while some students may demonstrate strong English language skills,
407 others may still be developing or struggling with aspects of language acquisition.

408 There is a significant relationship between academic motivation and English language
409 proficiency. A significant relationship is also observed between cognitive abilities and English
410 language proficiency. This means that students who are highly motivated academically and
411 possess strong cognitive abilities are more likely to excel in learning and mastering the
412 English language.

413 Academic motivation and cognitive abilities significantly influenced English language
414 proficiency. This implies that academic motivation and cognitive abilities substantially impact
415 students' development and enhancement of English language proficiency. The significant
416 influence of these factors suggests that students who are highly motivated academically and
417 possess strong cognitive abilities are more likely to achieve higher English proficiency levels.

418

419 **6. RECOMMENDATIONS**

420 Based on the findings and conclusions of the study, the following recommendations were
421 created:

422 The Department of Education may prioritize integrating programs and interventions to
423 enhance cognitive abilities and English language proficiency into the senior high school
424 curriculum. By providing resources and training opportunities for teachers, they can
425 simultaneously develop effective strategies to promote cognitive development and English
426 language skills. Conducting research to identify best practices for improving these areas
427 among senior high school students will ensure evidence-based curriculum design and
428 implementation decision-making.

429 Moreover, school administrators are crucial in enhancing students' cognitive abilities and
430 English language proficiency. They may allocate resources and support for initiatives

431 targeting these areas, collaborating with teachers to design interdisciplinary projects and
432 activities. Implementing regular assessment tools to monitor students' progress will enable
433 administrators to track the effectiveness of interventions and make necessary adjustments to
434 support student growth.

435 Furthermore, teachers can make a significant impact by implementing differentiated
436 instruction strategies tailored to address the diverse cognitive levels and English language
437 proficiency levels of students. Integrating activities that promote critical thinking, problem-
438 solving, and language acquisition into their lessons will help students develop both cognitive
439 abilities and English language skills simultaneously. Additionally, providing collaborative
440 learning and peer interaction opportunities can further enhance student engagement and
441 learning outcomes.

442 Apart from this, students may take an active role in their learning by seeking opportunities for
443 self-directed practice to improve cognitive abilities and English language proficiency.
444 Engaging in activities such as reading, writing, and participating in discussions or clubs
445 outside of the classroom can provide valuable opportunities for language practice and
446 cognitive growth. Seeking support from teachers or peers when facing challenges can also
447 aid in overcoming obstacles and achieving academic success.

448 In addition, parents play a crucial role in supporting their children's cognitive abilities and
449 English language proficiency development. They may encourage and facilitate participation
450 in activities that promote cognitive growth and language practice outside of school. Access
451 to resources such as books, educational games, and language learning materials can
452 supplement classroom learning and reinforce skills at home.

453 Also, future researchers can investigate the relationship between cognitive abilities and
454 English language proficiency among senior high school students. Longitudinal studies or
455 experimental research can help uncover underlying mechanisms and identify effective
456 interventions or instructional approaches. Considering socioeconomic status, cultural
457 background, and educational context will provide a more comprehensive understanding of
458 how these variables influence student outcomes. Researchers can inform policy and practice
459 to better support student learning and development by contributing to the body of knowledge
460 in this area.

461

462 **COMPETING INTERESTS**

463

464 Authors have declared that no competing interests exist.

465

466 **AUTHORS' CONTRIBUTIONS**

467

468 All authors have contributed equally. They have read and agreed to the published version of
469 the manuscript.

470

471 **CONSENT (WHEREEVER APPLICABLE)**

472

473 All authors declare that 'written informed consent was obtained from the respondent (or
474 other approved parties) for publication of this case report and accompanying images. A copy
475 of the written consent is available for review by the Editorial office/Chief Editor/Editorial
476 Board members of this journal.

477

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