

## **Factors Predicting Academic Performance of College Students**

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The research is about academic performance and its contributing factors among two hundred thirteen (213) college students. This study aimed to identify variables which were predictors of academic performance; analysing prior academic achievement and grit and utilizing the following instruments: Otis-Lenon School Ability Test, Wide-range achievement test, and grit scale. The study focused on the City College of Angeles, Angeles City, Philippines. Descriptive predictive method was utilized in the study. Findings indicated that participants are described to be mostly gritty, very satisfactory in the senior high school grade point average, and below average performances in reading comprehension and mathematics. Multiple regression stepwise analysis confirmed prior academic indicators, namely: senior high school grade point average, wide-range achievement test – mathematics, wide-range achievement test – reading comprehension, and Otis-Lenon school ability test as predictors of academic performance in terms of 1<sup>st</sup> year grade point average with a variability of 45%. Similarly, grit subscale consistency of interest is identified as predictor of academic performance in terms of 1<sup>st</sup> year grade point average with a variability of 5.2%. Results suggest a regression model to predict the academic performance of college students.

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Keywords: *Academic performance, Prior Academic Achievement, Grit, Otis-Lenon school ability test, Wide-range achievement test*

### **Introduction**

People spend their life in some form of education be it formal and informal. They usually devote a part of their lives acquiring learning at different educational institutions after which spending the rest of their lives applying this learning in their chosen field of work. With that being said, moving from high school to college can be a big transition for some students. It is the time where one has to make preparations by establishing his/her skill set and interests which can help him/her achieve college success. College education lays as one of the fundamentals to an individual's pursuit to success. Painstaking efforts and utmost determination are some of the things that one has to undergo throughout this stage in one's formal education.

It is quite astounding that maintaining academic achievement has been one of the most challenging and affectively charged tasks that many students are faced with. As stated by Heller (2015), the first year in college is usually the time of possible risk for student academic failure and drop out. Struggles associated with academic-related anxiety and stress coupled with limitations in effective coping strategies typically lie at the center of difficulties these first-year students may possibly experience, which ultimately play a significant role in their academic achievement outcomes. The study of Tinto (2011) focused on explaining differences in student performance

across different college year levels. He postulated that the first year of college is the period of time with the highest withdrawal rates between 30% to 36% which indicated that these students will not persist into their second year due to several factors (i.e., poor academic performance, family issues, financial difficulty, insufficient preparation, loss of interest, etc.). In the Philippines, dropout rates revealed an alarming 83.70%, which means that the country is producing 2.13 million college dropouts annually. Similarly, the National Center for Education Statistics (NCES) reported that most dropouts leave college before entering their second year. Despite of widespread efforts to address the issue, many educational institutions still find that many college students struggle in first year to achieve their academic goals. Given the possible risk of first year students when it comes to their performance, the researchers looked into the first-year college performance wherein this is a measure of their performance using the first-year cumulative grade point average (GPA) ranging from 75 to 100 percent. This included all subject courses taken within the first 12 months of enrolment at their chosen college.

Several investigations into potential predictors of student outcomes point to a myriad of factors. Many studies have empirically verified the relationship between future academic performance and the combination of both standardized test scores and high school GPA. One of the focuses of this study is the prior academic achievement. Prior academic achievement is the measure of student ability prior to entrance into a collegiate institution using a combination of high school grade point average (HS-GPA) and college admissions test scores. As stated in the study of DeBerard, Spielmans & Julka (2004), prior academic achievement may be considered as one of the most durable and useful predictors for success. In their attempt to gauge student retention and achievement outcomes in college, most schools rely purely upon high school grade point average (GPA) and college admissions test scores as measures of prior academic achievement as they provide robust information regarding the students applying to various colleges and universities. In addition, Kobrin et al. (2008) found an incremental increase in the predictive validity by 0.08 when high school GPA and standardized test performance are combined as correlated to academic performance. An extensive review was conducted by Burton and Ramist (2001) to evaluate the ability of standardized test and high school GPA to predict future performance. They concluded that a combination of both the scores were capable of making significant and accurate contributions to predict first year GPA, cumulative college GPA, as well as graduation. It was also found that the prediction accuracy was more with the combination of the two either of them. The two are even capable of predicting even certain academic behaviours at college like distinction and other departmental honors.

Harackiewicz, Barron, Tauer & Elliot (2002) followed 471 college students enrolled in an introductory psychology course from the first semester up until graduation. The study examined prior academic factors (i.e., Scholastic Assessment Test/American College Test scores, high school GPA) and college performance. The results showed that students higher in measures of prior achievement demonstrated better psychology course performances and higher first-semester GPAs as compared to students whose scores are within the lower prior achievement ratings. Moreover, significance of prior achievement was also apparent in cumulative GPAs at time of graduation,

indicating that prior achievement was a good predictor of college academic performance both in the short and long-term.

A similar study conducted by Zyphur, Bradley, Landis and Thoresen in 2007 where they found a comparable support for prior academic achievement measures as predictors of academic indicators. Also, the results indicated that prior achievement becomes less salient as they progress into the later years of their college career. In a sample of 207 college students, the researchers investigated the role of prior academic achievement (i.e., ACT/SAT scores) and personality factors on student performance across the students' first seven semesters enrolled at the university. It was reflected that students with higher scores of prior achievements upon entry got higher college GPA, especially during their first year of college. Although prior achievement still remained a predictive factor beyond their first year, initial effects turned out to be less significant in students' performance across the remaining three years with personality factors also explaining differences in student performance.

Alarcon and Edwards (2013) also included first year college students in their study regarding prior ability, as indicated by their ACT scores and student retention. In a sample of 584 first year college students, they were able to measure student performance at four different intervals during their first year. Regression analysis results found that ACT scores were a significant predictor of retention at all four time points. Students who scored one standard deviation below the mean on ACT scores were 0.98 times more likely to withdraw from the school.

In a longitudinal study of 204 freshmen college students, DeBerard et al. (2004) examined student demographics, prior academic achievement and other psychosocial variables as probable predictors of academic performance and retention. Correlational analysis showed that high school GPA and SAT scores were positively associated with college cumulative GPA with an r-value of 0.67 and 0.30 respectively. Furthermore, high school GPA was also significantly correlated to student persistence from first year into second year of college ( $r = -0.20$ ); those student with higher GPAs were more likely to stay all throughout the institution. Regression analysis confirmed that SAT scores and high school GPA are strong predictors of first-year cumulative GPA, which also accounts greater proportion of the variance explained compared to other variables (i.e., coping, social support) that were investigated in the study.

Many studies have empirically verified the relationship between academic performance and the combination of both standardized test scores and high school GPA. Results show that the combination even outperformed in a consistent manner (Wiley, 2014). Furthermore, a few studies which demonstrated this include Burton and Ramist (2001), Julian (2005), Kobrin, Patterson, Shaw, Mattern and Barbuti (2008), Kuncel, Crede and Thomas (2007), Noble (2003), Stilwell, Dalessadro and Reese (2007).

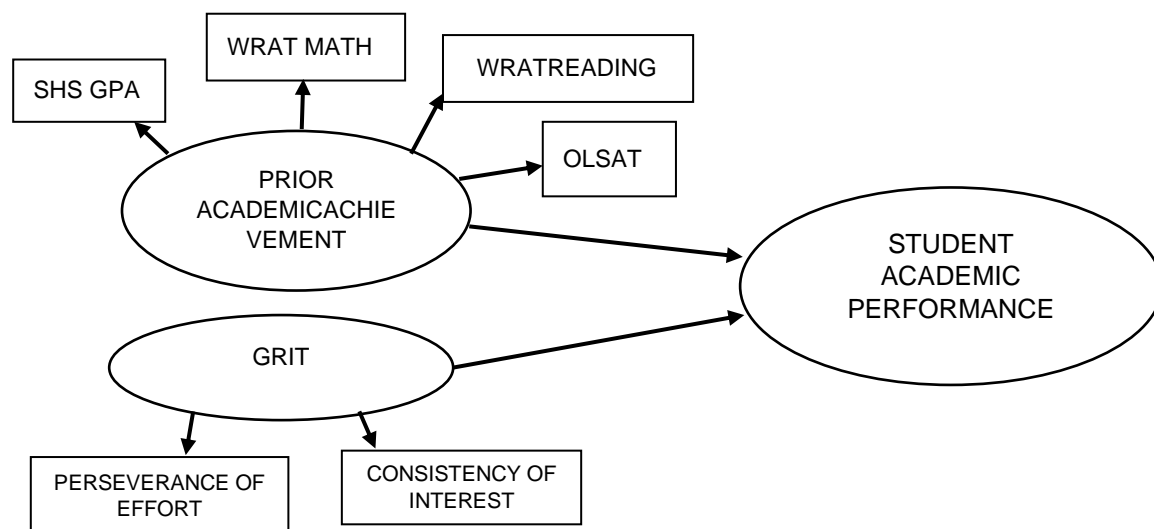
Although measures of prior achievement continue to provide sufficient predictive value to institutions regarding students' potential for success in college (Alarcon & Edwards, 2013; DeBerard, Spielmans, & Julka, 2004; Harackiewicz, Barron, Tauer, & Elliot, 2002; Zypher, Bradley, Landis, & Thoreson, 2007), several factors may also contribute to achievement outcomes.

Another factor that the researchers included in this study was grit. Grit describes the passion, sustained self-control to attain personally relevant long-term goals (Duckworth et al, 2007). Researchers suggest that grit may be significant and important in the academic performance of students. Duckworth et.al. (2007) expounded grit saying that it emphasizes stamina which requires sustained effort and interest in goals, notwithstanding failure, lack of progress and feedback, and difficulty. Furthermore, it is observed in certain behaviors such as obsessed with an idea or project and maintained focus on a task over a period of time. On the contrary, less gritty individuals are observed to be distracted by new ideas, new projects, and discouraged by setbacks. They set a goal but later choose a different one and have difficulty in maintaining focus on long-term projects. There are two factors of grit, namely: consistency of interest and perseverance of effort. Consistency of interest can be described as holding interest in the same things over time and perseverance of effort can be described as continuing to put forth effort (Duckworth et al, 2007; Duckworth & Seligman, 2005).

Few studies have explored the relation of grit to academic performance in college (Duckworth et al., 2007; Jaeger et. al. 2010; Strayhorn, 2014). Researchers have indicated that the capacity to persevere in the face of ongoing challenges, that which could be experienced in an academic setting, is a significant predictor of success in the academic context and beyond (de Beer & van Heerden, 2017; Duckworth, 2016; Grant Halvorson, 2012; Hattie, 2009). In the study of Duckworth et al (2007) grit scores were positively and significantly related with GPAs ( $r = .25, p < .01$ ). The relation of grit to GPA was even stronger when controlling for SAT scores. Grit was also negatively and significantly associated with lower SAT scores ( $r = -.20, p < .03$ ), suggesting that “smarter students may be slightly less gritty than their peers” (Duckworth et al., 2007, p. 1093). The researchers recommended that educators should encourage students to work with concentration and stamina to attain success (Duckworth et al, 2007).

Furthermore, the study of Strayhorn (2014) found out that college grades were moderately and significantly related to grit scores in a positive direction ( $r = .38, p < .01$ ). Likewise, college grades were also positively and significantly related to HSGPAs ( $r = .35, p < .01$ ) and ACT scores ( $r = .23, p < .01$ ). Strayhorn (2014) then conducted a hierarchical regression analysis and results showed that “grittier Black males earned higher grades in college than their less gritty same-race male peers, even after controlling for differences in age, year in school, transfer status, engagement activities, degree aspirations, and prior achievement” (Strayhorn, 2014, p.6). The final model of the multiple regression analysis including Grit-S scores in predicting grades was found to be significant,  $F(9, 129) = 4.42, p < .01$  with a variability of 24% ( $R = .49$ ) which explained all factors in the model, which included age, HSGPA, college GPA, grit, ACT, international student status, transfer student status, student athlete status, affiliation with fraternity and year in college. “Grit ( $b = 0.04$ ) was a positive predictor of grades in college, affecting grades almost as equally as HSGPA ( $r = .31$ ) and ACT scores ( $r = .28$ )”. Grit was moderately correlated with Black males’ grades in college (partial  $r = .25, p < .01$ )” (Strayhorn, 2014, p.6). Lastly, In the study of Jaeger et al. (2010) concluded that additional research on grit and student success can inform educators and can make strategies that foster and increase grittiness in students to contribute to their overall success (Jaeger et al., 2010).

In this study, as presented in the literatures, factors predicting academic performance can be identified through prior academic indicator factors which are previous grade point average performance and standardized tests scores (DeBerard, Spielmans & Julka, 2004; Kobrin et al., 2008; Burton and Ramist, 2001; Harackiewicz, Barron, Tauer & Elliot, 2002; Zyphur, Bradley, Landis and Thoresen, 2007; Alarcon and Edwards, 2013; DeBerard et al., 2004; Wiley, 2014; Burton and Ramist, 2001; Julian, 2005; Kobrin, Patterson, Shaw, Mattern and Barbuti, 2008; Kuncel, Crede and Thomas, 2007; Noble, 2003; Stilwell, Dalessadro and Reese, 2007). In terms of grit, as presented in the literatures, is also identified as a factor predicting academic performance but only limited (Duckworth et al., 2007; Jaeger et al., 2010; Strayhorn, 2014; de Beer & van Heerden, 2017; Duckworth, 2016; Grant Halvorson, 2012; Hattie, 2009). In line with the presented literatures, the gap of connecting the predictors of academic performance can be further studied on what factors attributed to it. The following figure shows the concept illustration of the study:



**Figure 1. The conceptual model illustrating the factors predicting the student’s academic performance**

This study opted to answer the following questions in exploring the factors predicting students’ academic performance. The research was guided through the following research questions and hypothesis:

1. How may CCA students’ prior academic achievement be described in terms of their:
  - b. Senior High School Grade Point Average (GPA)
  - c. Wide Range Achievement Test (WRAT) – Math
  - d. Wide Range Achievement Test (WRAT) – Reading
  - e. Otis-Lennon School Ability Test (OLSAT)?

2. How may CCA students be described in terms of their grit scores?
3. Can SHS GPA, WRAT – Math & Reading, and OLSAT (i.e., prior academic achievement) predict the academic performance of CCA students?
4. Can grit predict the academic performance of CCA students?

### **Hypothesis**

- H1: SHS GPA, WRAT – Math & Reading, and OLSAT (i.e., prior academic achievement) are predictors to the academic performance of CCA students.
- H2: Grit is a predictor to academic performance of CCA students.

### **Methodology**

The present study used a descriptive predictive research design to identify possible predictors of academic performance to prior academic achievement and grit respectively. The researcher identified the sample data from the local setting, particularly at City College of Angeles (CCA). The set of participants comprised of 213 students who represented the study. Students coming from Institute of Business and Management (IBM), Institute of Computing Studies and Library Information Science (ICSLIS) and Institute of Education, Arts and Sciences (IEAS) were considered. The participants were randomly selected through the use of cluster sampling as basis in determining the target population. This type of sampling method provided equal chances to all the participants under each group or cluster to be selected since it will yield a respectable spread right across the total population. Consequently, a sample size calculator was used in identifying the number of participants needed for the study. One of the well-known sample size calculators being used in researches is G\*Power. The said software covers statistical power analyses for several different statistical tests. As for this study, *A priori statistical power analysis* was conducted with power  $(1 - \beta)$  set at 0.95 and  $\alpha = 05$ , two-tailed. Furthermore, *Exact Test* for test family type was used since that *linear multiple regression: random model* was the basis for statistical test. Lastly, *number of predictors with a value of five (5)* was encoded on the said software application since there were seven identified predictors (e.g. SHS – GPA, WRAT – Math & Reading, OLSAT & grit) in the said study. The G-power analysis results indicated that sample sizes would have to increase up to  $N = 71$  which was multiplied to three (3) given the fact that the school has three (3) existing college departments. Upon establishing such parameters, it is improbable that negative findings can be attributed to a limited sample size.

### **Instruments**

Developed by Arthur Otis in 1918 which was then adopted by Roger Lennon after Otis' demise, the OLSAT 8 (Level G) is a 72-itemed test which was designed to measure verbal, quantitative, and figural reasoning skills that are closely related to scholastic achievement. The said instrument can be individual or group administered that is intended for grades 9 to 12 and requires forty (45) minutes to accomplish. Upon completion, raw scores are the basis for conversion to a scaled score (by age and grade level), percentile ranks and verbal interpretation.

This version of OLSAT is structured to provide the Verbal (V) and Nonverbal (NV) tests since students must have the ability to succeed at basic school learning tasks through these sets of skills. Specifically, each of the verbal (V) and nonverbal (NV) test consists of two (2) subtests that can further identify the detailed skill of an individual. For verbal (V) test, measures on Verbal Comprehension - VC (*following directions, antonyms, sentence completion & sentence arrangement*) and Verbal Reasoning - VR (*aural reasoning, arithmetic reasoning, logical selection, word/letter matrix, verbal analogies, verbal classification & inference*) were established. Figural Reasoning - FR (*figural classification, figural analogies, pattern matrix & figural series*) and Quantitative Reasoning - QR (*number series numeric inference & number matrix*) were the factor structure under nonverbal (NV) ability. Considering the complexity of its factor structures, the Total Score (raw score) is still considered to be the best overall indicator of school learning ability since students' ability to learn is dependent upon proficiency in both verbal and nonverbal modalities (Otis & Lennon, 2003).

Developed by Robertson in 2001 is the third instrument used in this study, the WRAT is a group-administered, comprehensive battery of norm-referenced achievement tests designed to assess the core curricular domains of reading, mathematics and oral language. The abovementioned instrument was designed for ages 7 to 18 and requires forty (40) minutes per domain. The following types are derived from raw scores which are provided for the interpretation of results: standard scores (by age and grade level), percentile ranks, stanines and verbal interpretation correspondingly.

Mainly, the instrument is comprised of three subtests that would quantify an individual's measures of basic academic skills necessary for effective learning, communication and thinking. (a) Reading (45-items) is the ability to read and understand word sentences through comprehension of reading passages appropriate to students; (b) Second subtest is Mathematics (40-items) which measures the ability to perform basic mathematical computations through counting, identifying numbers, solving simple oral problems, and calculating written mathematical problems. (c) Nonverbal Reasoning test (35-items) is the third subtest of this instrument. It provides a brief measure of an individual's abstract reasoning ability in assessing one's capacity to quickly identify logical shapes and patterns (Robertson, 2001). As for this study, the researchers gave emphasis on reading and mathematics subtest scores for the reason that OLSAT already covers the nonverbal ability area. Furthermore, OLSAT covers a wider range of areas of school ability in terms of nonverbal measure.

Lastly, the test's psychometric properties of reliability, error and validity were assessed. According to Robertson (2001) as cited in Lee, McCollum, McNesse & Styron, (2007) that test-retest reliability of WRAT-Expanded, as measured by the Kuder-Richardson Formula 20 (KR-20), was 0.89, which is considered as acceptably reliable. The authors put emphasis mainly that all tests contain error to some degree. The Standard Error of Measurement (SEM) for the WRAT-Expanded tests is 5.10 (Robertson, 2001, p. 31). In order to gain construct and content validity, the tests were research literature-based upon which test experts made suggestions for revisions, which were subsequently incorporated into them. Robertson (2001) in Lee et.al., (2007) further concluded that WRAT-Expanded norms were generally consistent with those of other tests normed at different

times on different samples of individuals generally similar to the norming samples of other widely used achievement and cognitive measures.

An instrument developed by Duckworth (2007), Grit scale is a tool that measures an individual's tendency to sustain interest and effort toward very long-term goals (Duckworth, Peterson, Matthews & Kelly, 2007). The Grit-S includes seventeen (17)-items and is scored on three scales: (a) Consistency of Interest (6-items); (b) Perseverance of Effort (6-items); and (c) Ambition (5-items). Participants were asked to rate the statements on a 5-point Likert scale ranging from 1 (*very much like me*) and 5 (*not like me at all*). Lastly, subscales of this instrument are shown to have a reasonable reliability. In the study conducted by Rimpfeld, K., Kovas, Y., Dale, P., & Plomin, R. (2016), it was reflected that the scale of Chronbach's alpha ranges from 0.63 to 0.73.

### **Procedure**

In order to gather the necessary data, the researchers followed the standard procedure in a research undertaking. Approval letters from administrators of CCA were sought to authorize the researchers to conduct the study to its potential participants. Moreover, establishing dataset for this study required information needed through the approval of the College President, Vice-President of Academic Affairs (VPAA), Registrar's Office & College Guidance and Formation Office (CGFO). Upon approval, information regarding the participant's parents' educational status, WRAT – Math & English scores, and OLSAT scores were collected from College Guidance and Formation Services (CGFO). Data records about the participants' Senior High School – Grade Point Average (SHS-GPA) and their first year GPA were gathered through the cooperation of the College Registrar's Office. The final data were gathered during their scheduled enrolment wherein participants were tasked to accomplish the Personal Information Sheet (PIS) and Grit Scale (Grit-S) through the assistance of guidance counselors and psychometrician. Accordingly, a letter of consent was signed by the participants. It was emphasized by the researcher that as participants of the study, they can exercise full autonomy. This means that should they decide; they can withdraw as participants any time after informing the researcher. Benefits and goals of the study were also discussed. Ethical considerations were also observed by the researcher to ensure the participants' welfare and prevent physical, psychological, and emotional distress among them during the process. Lastly, the principle of confidentiality from the data and results was guaranteed.

### **Data Analysis**

The data gathered were encoded and tabulated using excel spreadsheet to ensure that the data were coded in an organized manner. The said data underwent the process of data cleaning by means of detecting and correcting (or removing) inaccurate records from the data in order to prevent inconsistencies that would compromise the results of the research study. The final data were subjected to data analysis using the Statistical Package for Social Science (SPSS) version 21. The processed data were presented using frequency (f), percentage (%), mean ( $\bar{x}$ ) and standard deviation (SD) for descriptive purposes.

Multiple Regression Step-wise Analysis was utilized in predicting the outcome variable. As defined by Nolan & Heinzen (2008), multiple regression is a statistical technique in which an



outcome is predicted by a linear combination of two or more predictor variables. In each step, a variable is considered for addition to or subtraction from the set of explanatory variables based on some prespecified criterion. Lastly, coefficient of determination ( $r^2$ ) was the sole basis in identifying the variables' predictability.

## Results and Discussion

### Problem 1. Four Areas Prior Academic Indicators

Table 1 presents the prior academic achievement of the participants presented in mean and standard deviation. It shows that the participants' senior high school grade point average ( $M = 86.42$ ,  $SD = 5.05$ ) to be very satisfactory (<https://www.teacherph.com/deped-grading-system/>). In terms of Wide range achievement test result (WRAT), the mathematics ( $M = 14.07$ ,  $SD = 5.33$ ) and reading comprehension ( $M = 19.34$ ,  $SD = 5.19$ ) show below average performances (Robertson, 2001). In terms of Otis-Lennon School Ability Test (OLSAT) result, the scores ( $M = 26.60$ ,  $SD = 7.43$ ) describes a low average performance (Otis & Lennon, 2003).

**Table 1. Prior Academic Achievement**

Prior Academic Achievement	Mean	SD	Description
Senior High School Grade Point Average (GPA)	86.42	5.05	Very Satisfactory
Wide Range Achievement Test (WRAT) – Math	14.07	5.33	Below Average
Wide Range Achievement Test (WRAT) – Reading	19.34	5.19	Below Average
Otis-Lennon School Ability Test (OLSAT)	26.60	7.43	Low Average

### Problem 2. Grit and its Three Subscales

Table 2 presents the grit and its subscales of the participants. It shows that the participants' perseverance of efforts ( $M = 3.88$ ,  $SD = 0.48$ ), and grit itself ( $M = 3.57$ ,  $SD = 0.47$ ) are described to be mostly gritty. In terms on consistency of interests ( $M = 3.26$ ,  $SD = 0.69$ ), participants are somewhat gritty (Duckworth et al, 2007). Generally speaking, participants are described to observe perseverance and passion for long term goals. They are working persistently and vigorously towards a challenging goal, sustaining effort despite failures, setbacks and obstacles (Duckworth et al, 2007).

**Table 2. Grit and its Subscales**

	Mean	SD	Description
Perseverance of Efforts	3.88	0.48	Mostly gritty
Consistency of Interests	3.26	0.69	Somewhat gritty
Total Grit	3.57	0.47	Mostly gritty

### Problem 3. Prior Academic Achievement Predicting the Academic Performance

Table 3 shows that the senior high school grade point average, wide range achievement test in mathematics, wide range achievement test in reading comprehension, and Otis-Lennon school ability test were found to predict the 1st year grade point average academic performance. A significant regression equation was found ( $F(1, 217) = 43.76, p < .00$ ), with an  $r^2$  of 0.45 which describes the variability of the regression model. This means that 45% variability in the 1st year grade point average academic performance can be identified in senior high school grade point average, wide range achievement test in mathematics, wide range achievement test in reading comprehension, and Otis-Lennon school ability. Participants' predicted 1st year grade point average academic performance is equal to  $48.83 + 0.35(x1) + 0.17(x2) + 0.13(x3) + 0.09(x4)$  where  $x1$  is equal to senior high school grade point average,  $x2$  is equal to wide range achievement test in mathematics,  $x3$  = wide range achievement test in reading comprehension,  $x4$  is equal to Otis-Lennon school ability. This confirms that standardized test scores significantly contribute to college academic performance (Wiley, 2014; Burton and Ramist, 2001; Julian, 2005; Kobrin, Patterson, Shaw, Mattern and Barbuti, 2008; Kuncel, Crede and Thomas, 2007; Noble, 2003; Stilwell, Dalessadro and Reese, 2007; DeBerard, Spielmans & Julka, 2004; Harackiewicz, Barron, Tauer & Elliot, 2002). Furthermore, the study confirms the research of Burton and Ramist (2001) in evaluating the ability of standardized test and high school GPA to predict future performance that says combination of scores are capable of making significant and accurate predictor of first year GPA, cumulative college GPA, as well as graduation (Burton and Ramist, 2001; Komarraju, Ramsey, & Rinella, 2013). Furthermore, the result confirms that past academic performance which can be prior academic achievement has been used as proxy for student persistence and cognitive ability (Cabrera, Nora, Terenzini, Pascarella & Hagedorn, 1999; Ishitani & DesJardins, 2002). In addition, this confirms that most schools rely purely upon high school grade point average (GPA) and college admissions test scores as measures of prior academic achievement as they provide robust information regarding the students applying to various colleges and universities (DeBerard, Spielmans & Julka, 2004). Likewise, this validates usage of identified admission tests which are Otis-Lennon School Ability Test and wide range achievement test are factors of predicting future academic performance of students.

**Table 3. Model Summary of Prior Academic Achievement Predicting Academic Performance**

Model	R Square	B	Constant	p-value
Senior High School Grade Point Average (GPA)	0.26	0.35		0.00**
Wide Range Achievement Test (WRAT) – Math	0.41	0.17		0.00**
Wide Range Achievement Test (WRAT) – Reading Comprehension	0.44	0.13	48.83	0.01*
Otis-Lennon School Ability Test (OLSAT)	0.45	0.09		0.01*

- a. Predictors: Senior High School GPA, Wide Range Achievement Test (WRAT) – Math, Wide Range Achievement Test (WRAT) – Reading Comprehension, Otis-Lennon School Ability Test (OLSAT)  
b. Dependent Variable: 1st Year Grade Point Average Academic Performance

**Problem 4. Grit Predicting Academic Performance**

Table 4 shows that the consistency of interest as subscale of grit was a predictor 1st year grade point average academic performance of participants. A significant regression equation was found ( $F(1, 217) = 11.92, p < .001$ ), with an  $r^2$  of 0.05 which describes the variability of the regression model. This means that 5.0% variability in the 1st year grade point average academic performance can be identified in the consistency of interest as subscale of grit. Participants 1st Year Grade Point Average Academic Performance is equal to  $91.17 - .23(x_1)$  where  $x_1$  is equal to consistency of interest. This confirms study of Mason (2018) that consistency of interest significantly predicts academic performance. This indicates that there is an experience of consistency of interest as subscale of grit among participants on ongoing challenges in academic performance in an academic setting wherein it is a significant predictor of academic performance.

**Table 4. Model Summary of Grit Predicting Academic Performance**

Model	R Square	B	Constant	p-value
Consistency of Interest	0.05	-0.23	91.17	0.00**

a. *Predictor: Consistency of Interest*

b. *Dependent Variable: 1st Year Grade Point Average Academic Performance*

**Conclusion and Recommendation**

The results of the study identified predictors of academic performance in terms of the 1st year GPA academic performance. Prior academic achievement which are senior high school GPA, Mathematics achievement test, reading comprehension achievement test, and Otis-lennon school ability tests are identified as predictors of academic performance. Among subscale of grit, consistency of interest is found to be a predictor of academic performance.

The findings on identifying consistency of interest as predictor of academic performance suggest a need to develop more classroom-based program to enhance consistency of interest so that it can also sustain a good academic performance. Such programs can be included in the guidance program of guidance office to enrich and sustain their consistency of interest in their chosen course and maintain their passion in fulfilling their long-term goals.

Furthermore, the findings on identifying prior academic achievement as predictors of academic performance suggests that certain considerations on the admissions criteria in screening of student applicants have to be included. The regression model can be used to identify certain cutoff in predicting the academic performance of students.

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