

How grit, college adjustment, and happiness predict freshmen students' academic performance?

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Abstract

Throughout the years, studies had documented the influence of grit, academic adjustment, and happiness on college students' academic performance. However, none of the previous studies warrant conclusive results. Previous findings yielded inconsistent conclusions. In effect, the predictive ability of grit, academic adjustment and happiness on academic performance still merit further investigation, especially among freshmen students. This paper had taken the route towards exploring how grit, academic adjustment, and happiness predict first-year students' academic performance. The study was conducted at Central Luzon State University where 313 freshmen students participated. The correlational analysis found several surprising findings. First, both grit and college adjustment was not significantly related to freshmen students' academic performance. Happiness was the only significant predictor of academic performance. Second, the findings show that grit, academic adjustment, and happiness were significantly inter-correlated. The present investigation may suggest that the predictive ability of happiness on academic performance may be dependent on the influence of grit and college adjustment. This may further imply that the grittier the students, the more capable they are in adjusting with their academic life, the happier they become, and the higher academic performance they achieve. The theoretical and practical implications of the findings are discussed.

Keywords: grit; college adjustment; happiness; academic performance; freshmen students

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1. Introduction

For decades, academic performance has been the subject of scientific inquiries. Previous studies primarily focused on determining the factors that shape the academic outcome. The multitude of findings shed light on several significant questions. However, the findings were not ubiquitous. Hence, academic performance remains a glaring subject that merits further investigation, especially among freshmen college students. Previous studies had suggested that the transition from high school to college often causes problems in freshmen students. For instance, Dyson and Renk (2006) found that stress, depressive symptoms and coping were all related to freshmen students' college life. These factors may detriment students' performance at school. Psychological health is one of the determining factors of freshmen's performance in school (Bruffaerts et al., 2018).

Because the college journey is tough, freshmen college students need not only intellectual capability but also psychological agility. Success in college does not always depend on intelligence quotient (IQ). Some argued that personal attributes or learned skills predict academic performance. For instance, Duckworth and Seligman (2005) believe that self-discipline is a better predictor of academic performance than IQ. Inspired by the latter study, this paper focuses on exploring psychological variables that may have been predicting academic performance. This paper assumes that grit, college adjustment, and happiness are factors that may have been contributing to the academic performance of freshmen students. Throughout the years, the interaction between these factors earned little attention and research effort. School systems tend to focus heavily on the grade point average (GPA), the numerical presentation of how well students perform at school. The problem, however, is that GPA does not provide a clear picture of students' true capability. Thus, measuring students' academic aptitude without understanding the underlying factors behind it may be a futile endeavor.

The present investigation proposed that, while intelligence in general, plays a very important role in academic success, some factors may also be worthy to consider in understanding the dynamics of academic performance. Although there is a limitless number of variables that could relate to freshmen's academic performance, this study only focuses on the predictive ability of grit, academic adjustment and happiness on academic performance. If passion for long-term goals, the ability to adjust and positive affect shape performance, it may be interesting if not necessary to examine how these factors determine academic performance. Unlike previous studies, the current investigation may be the first one to examine the inter-correlation among variables under study.

The aim of this study, therefore, is not only to fill the gap in the literature but also to provide a broader spectrum of evidence that will help understand the fate of young freshmen college students. That said, this paper examined the predictive ability of grit, college adjustment and happiness on freshmen students' academic performance.

1.1 Significance of the study

This study is beneficial for academicians, students, mental health professionals, and parents. First, this study can be a basis for academic institutions in designing and promulgating programs that promote the welfare of the students. The results may bring a message to the academicians that, in reality, academic performance is simply an outcome shape by several latent factors that operate in students' lives. Second, this study may enlighten the college students that success in school does not solely rely on their intellectual capability but on how effective they adapt and deal with the academic demands. Third, the result of the present investigation may be of great importance for mental health professionals in creating psychological interventions in the academic context.

Understanding the factors that may have been influencing the way students operate in an academic setting allows counselors to make effective actions. Lastly, the result of this study may also help parents to take the necessary steps to guide young students to develop abilities necessary for academic survival and success.

2. Review of related literature

2.1 *Grit and academic outcome*

Grit in this study is defined as the degree of passion and perseverance of an individual in pursuing a long term goal. Recently, grit was found to have a significant impact on performance in many areas. For instance, in a sports setting, Larkin, O'Connor, and Williams (2015) found that grittier players were more likely to have better engagement with sport-related activities. Furthermore, grit also found a significant predictor of performance in the military, workplace, academic, and marriage. The findings suggest that grittier people were more likely to have resilience and success in areas they operate (Eskreis-Winkler, Shulman, Bealand, & Duckworth, 2014).

The predictive ability of grit is not only evident in the mentioned aspects of life, but also in the psychological intervention process. For instance, Kleiman, Adams, Kashdan, and Riskind (2013) found that grit had indirectly lessened suicidal ideation. This may imply that grittier people tend to be psychologically healthier. In the academic context, grit was found to have a positive impact on students' academic outcomes. In fact, grit was not only related to academic success but also engagement (Tang, Wang, Guo, & Salmela-Aro, 2019); and academic motivation (Reraki, Celik, & Saricam, 2015). Success in school depends not only on intelligence but also on passion and perseverance to pursue an academic goal (Duckworth, Peterson, Matthews, & Kelly, 2007). However, the predictive ability of grit on academic performance remains unclear. This is because previous studies did not provide ubiquitous results. In fact, Credé (2018) argued that the claimed predictive ability of grit is still questionable. This means that more studies in this area are necessary to at least draw a more reliable conclusion.

2.2 *College adjustment and academic performance*

Going to college is a challenging phase of life transition. Because it is tough, freshmen's success depends on how well they adjust and adapt. College adjustment plays a significant role in academic performance. Previous studies found that students who were able to adjust with academic context had the better academic outcomes (Abdullah, Elias, Uli, & Mahyuddin, 2010).

Academic adjustment, however, is not a fixed individuals' ability but a volatile and vulnerable to external factors. Social interaction is one of the driving factors that shape academic adjustment (Ryan, 2011). Similarly, a good friendship also promotes not only academic adjustment but also academic competence and self-concept (Vandell & Hembree, 1994). In contrast, a negative social relationship like peer rejection negatively affects academic adjustment and students' well-being (Buhs & Ladd, 2001) and avoidance of school activities (Buhs, Ladd, & Herald, 2006). The decreased level of well-being may, in turn, trigger the dwindling of academic adjustment (Quan, Zhen, Yao, & Zhou, 2014). Moreover, academic self-efficacy also plays an important role in academic adjustment and performance (Chemers, Hu, & Garci, 2001). Freshmen students who believed that they could perform well in college got a higher academic outcome. Reciprocally, the academic context also influences students' academic adjustment (Raju & Khaja Rahamtulla, 2007). Also, racial (Anglin & Wade, 2007) and academic socialization (Cooper & Smalls, 2010) both predict academic outcomes. These factors seemed to help students gain better adjustment and a sense of purpose in their academic journey.

The familial context seems to predict and shape academic adjustment. For the most part, the family dynamic molds how an individual perceives his/her world. That said, the way parents nurture their children somehow determines students' behavioral tendencies in school which in turn affects the academic outcome (Strage & Brandt, 1999). To a similar extent, sense of connectedness also promotes better adjustment (Miller-Slough &

Dunsmore, 2016). Isolation detracts from freshmen students' ability to adjust and adapt to the academic setting they are in (Mattanah, Hancock, & Brand, 2004). Lastly, students' gender may also have played as a determining factor of college adjustment (Al-Qaisy, 2010). The latter study suggests that male students were more capable of adjusting to college than females. However, although previous findings had posed a significant array of information on the dynamic of college adjustment, it is still not clear whether or not college adjustment directly translates to academic performance and the emotional aspect of the students.

2.3 Happiness and academic performance

For decades, happiness has been the subject of scientific inquiry. The findings show that emotions had a tremendous impact on individuals' motivation and performance. In an academic setting, students' emotions shape academic performance (Daniels et al., 2009). Several findings found that happiness was significantly related to students' academic motivation (Hassanzadeh & Mahdinejad, 2013) and academic success (Mohammadi, 2015; Tabbodi, Rahgozar, & Abadi, 2015; Manzoor, Siddique, Riaz, & Riaz, 2014). The impact of happiness can also be found beyond the academic setting. In the workplace, psychological well-being is an influential factor that drives employees' performance (Wright & Cropanzano, 2004). Happy employees tend to perform better (Wright & Cropanzano, 2000).

But how does happiness increase students' academic motivation? This question merits an eclectic explanation. Psychological evidence seemed to have a clue. At least one study found that when individuals are happy, they perform better and better performance will, in turn, increase happiness (Quinn & Duckworth, 2007). In this instance, the impact of happiness on individuals' overall functioning could be bidirectional. That is, happiness increases performance and better performance will increase happiness. Datu and Mateo (2012) found a similar result which reinforces the assumption that happiness is the byproduct of personal achievement. However, studies on happiness did not yield a consistent result. Bucker, Nuraydin, Simonsmeier, Schneider, and Luhmann (2018) for instance, argued that well-being does not necessarily predict students' academic success. The finding further suggests that low and high academic outcome does not imply considerable variability in students' happiness. The previous investigation (Lumontod, 2018) found the same result. The latter study suggests that happiness was not associated with students' examination performance.

The inconsistent findings might only suggest that the individuals' overall functioning including academic performance is multifaceted. That said, studying a single factor can be way incapable of producing a ubiquitous result. Hence, this paper assumes that, in the context of this study, academic performance should be explored widely. By tapping the closest plausible factors behind the academic outcome, only then the freshmen students' fate in college can be at least partially understood.

2.4 Present study

Previous findings had posed significant contribution to understanding how individuals' overall functioning, especially academic performance is linked to many underlying factors. However, albeit studies on grit, college adjustment and happiness shed light on the complexity of academic performance, the findings were not without inconsistencies. Also, while grit, college adjustment, and happiness are, as assumed in this paper are all important influential factors of freshmen college students' academic performance, no inquiry (to the knowledge of the author) had been conducted to examine the predictive ability of these factors. This might be the first attempt to size up how much influence these factors have on academic performance. Therefore, the main purpose of this study is to determine the freshmen students' level of academic performance, grit, college adjustment, and happiness. Second is to understand the factors that could lead freshmen students to succeed in their academic journey. Ultimately, the findings of this study may be of great importance in formulating potential intervention to help freshmen survive in their academic endeavors.

3. Method

3.1 Design

This study employed correlational design which sought to determine the predictive ability of grit, college adjustment and happiness on freshmen students' academic performance. To collect the needed data, three questionnaires were used.

Short Grit Scale - Grit was assessed using the Short Grit Scale (Duckworth & Quinn, 2009). The scale has 8 items that measure the overall grit level of freshmen. The lowest score on the scale is 1 (Not at All Gritty) and the highest score is 5 (Extremely Gritty). This scale demonstrated an acceptable internal consistency in a sample of academically high-achieving high school students (Cronbach's $\alpha = .84$) as reported by Duckworth and Quinn (2009). However, in the sample of this study, the internal consistency of the Short Grit Scale is lower than the original reliability but still in the acceptable level (Cronbach's $\alpha = .72$).

College Adjustment Test - The freshmen students' academic adjustment was measured using The College Adjustment Test (CAT) originally used by Pennebaker, Colder, and Sharp (1990) in their study entitled "Accelerating the Coping Process". The CAT is a 19-item scale designed to measure how well freshmen students adjust in the academic setting. With the author's permission, the scale was scored using the 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree) instead of its original scoring procedure. The CAT has an acceptable internal consistency (Cronbach's $\alpha = .79$) using the freshmen college student samples. In the current sample, CAT also has an acceptable internal consistency (Cronbach's $\alpha = .81$).

Oxford Happiness Questionnaire - To assess the freshmen's level of happiness, the Oxford Happiness Questionnaire (Hills & Argyle, 2002) was used. The OHQ has 29 items with 6 response choices (1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Moderately Agree, 6 = Strongly Agree). Hills and Argyle (2002) reported the reliability of the scale (Cronbach's $\alpha = .91$). In the current sample, the OHQ also indicates good internal consistency (Cronbach's $\alpha = .84$).

Lastly, freshmen students' academic performance was measured using GPA which scores ranges from 5.0 to 1.0. The interpretation was based on the Central Luzon State University grading system (5 = Failure, 1 = Excellent).

3.2 Participants

516 freshmen students participated in this study. However, due to inconsistencies and missing values in the data, only 313 participants with ages ranging from 18-24 years old ($M = 18.87$, $SD = .72$) were included in the analyses. The participants were all first-year students of Central Luzon State University enrolled in their respective undergraduate programs.

3.3 Ethical considerations

Before responding to the questionnaires, the participants were informed about the nature and purpose of the study as well as their rights to withdraw participating any time before, during, and after the data gathering without facing any consequences. In addition, the anonymity of personal information and the confidentiality of data shared by the participants were assured.

3.4 Data analysis

The preliminary analysis used Pearson Moment Correlation to determine the link between grit, college adjustment, and happiness with freshmen's academic performance. To determine the predictive ability of grit,

college adjustment, and happiness on academic performance, the Multiple Linear Regression analysis was conducted.

4. Result

This study was guided by two main objectives. First, this investigation sought to explore the link between grit, college adjustment, and happiness with freshmen students' academic performance. Secondly, this study aimed to determine the predictive ability of grit, college adjustment and happiness on freshmen students' academic outcome. The analyses yielded surprising results.

Table 1

Academic performance (GPA) grit, college adjustment, and happiness level (N = 313)

Items	Mean	SD	Description
GPA	2.07	.32	Very Good
Grit	2.86	.45	Not at All Gritty
College Adjustment	3.11	.64	Uncertain
Happiness	3.93	.55	Unhappy

Note. The academic outcome (GPA) was based on the Central Luzon State University grading system (5 = Failure, 1 = Excellent).
* = $p < .05$, ** = $p < .01$.

The table above shows that freshmen's academic outcome ($M = 2.07$, $SD = .32$) was very good. But the grit level suggests that they were not gritty ($M = 2.86$, $SD = .45$). Furthermore, freshmen's college adjustment level suggests that they were uncertain of whether they adjusted well with their college life ($M = 3.96$, $SD = .64$). Lastly, freshmen students were generally unhappy ($M = 3.93$, $SD = .55$).

Table 2

Correlation between grit, college adjustment, happiness and academic performance (N = 313)

Variable	1	2	3	4
GPA	-			
Grit	-.032	-		
College Adjustment	.058	.341**	-	
Happiness	-.172**	.445**	.345**	-

Note. The academic outcome (GPA) was based on the Central Luzon State University grading system (5 = Failure, 1 = Excellent).
* = $p < .05$, ** = $p < .01$.

The results suggest that grit had no significant link with GPA ($r = -.032$, $p = .571$). The same result was found between academic adjustment and GPA ($r = .058$, $p = .310$). Only happiness has weak but significant relationship with GPA ($r = -.172$, $p = .002$). However, the inter-correlations reveal that freshmen students' grit and college adjustment were significantly correlated ($r = .341$, $p = .000$), happiness and grit ($r = .455$, $p = .000$), happiness and college adjustment ($r = .345$, $p = .000$).

Table 3

Multiple Regressions on College Adjustment and Happiness on Academic Performance

Variables	β	T	P	R	R^2	F
College Adjustment	.004	2.24	.026	.212	.045	7.287
Happiness	-.127	-3.674	.000			

The multiple regression analysis shows that freshmen students' college adjustment and happiness significantly predicted academic performance, $R^2 = .045$, $F(2, 310) = 7.287$, $p = .001$. Overall, the result further suggests that 4.5% of the variance of freshmen academic performance is accounted for by college adjustment and happiness. However, both college adjustment and happiness were unable to explain 95.5% of the students' outcome in school. This may further suggest that there are other better predictive variables behind academic outcome not considered in this study. Individually, college adjustment ($\beta = .004$, $p = .026$) and happiness ($\beta = -.127$, $p = .000$) had significant influence on academic outcome among freshmen college students.

5. Discussions

The main purpose of this investigation was to assess the level of grit, college adjustment, happiness, and freshmen's academic performance. Secondly, the current study also examined the role of grit, college adjustment, and happiness on freshmen students' academic performance. The theoretical and practical implications of the findings are discussed in this section.

5.1 *Grit and academic performance*

The result suggests that freshmen's academic performance was very good. This may suggest that despite students' decreased interest in school (Yonezawa, Jones, & Joselowsky, 2009), the participants in this study somehow performed well academically. However, the result further suggests that freshmen students were not gritty. If the previous finding of Eskreis-Winkler et al. (2014) can be held constant, then freshmen students in this study would expectedly fail at school. However, the current finding seems to suggest that grit has nothing to do with freshmen students' academic performance. This interpretation is reinforced by the correlational analysis. The result suggests that grit and academic performance failed to establish a significant relationship. Overall, the finding contradicts with the previous results suggesting that grit, the passion for long term goal, is related to academic performance and success in college (Strayhorn, 2014).

The current investigation is not the first to suggest a non-significant link between grit and academic performance. At least one study had argued that the predictive ability of grit on students' school performance is inconsistent and therefore merits more future investigation (Credé 2018). At this point, the result poses questions than a definitive conclusion. Is grit not predicting academic performance? Why freshmen students with very good scholastic performance were not gritty? One of the possible answers to these questions may be found in previous studies. For instance, Bazelais, Lemay, and Doleck (2016) suggest that grit did not show a significant predicting ability on students' academic performance. Instead, the previous study indicates that the main predictor of academic performance was the previous academic outcome. The study of Ivcevic and Brackett (2014) posits another result. The latter finding shows that grit did not predict academic performance but the consciousness and emotion regulation ability of the students.

The finding of the present investigation may imply that the predictive validity of grit on academic performance is inconsistent and may also be dependent on distal factors that determine its influence on performance. The previous study of Von Culin, Tsukayamab, and Duckworth (2014) seems to provide a partial explanation. The latter study found that grit is somehow determined partly by the factors that predict individuals' happiness. People who pursue meaning in life tend to become grittier and able to maintain effort over time. However, such an endeavor may not translate to an incremental increase in academic performance. In effect, grittier students may not necessarily obtain higher academic performance and vice versa. In the case of freshmen students, it may be a question of what they are passionate about.

It may be plausible to speculate that the participants' academic performance may not primarily the function of passion for academic goals. As discussed in the next section of this paper, academic performance is predicted by multiple external variables, not grit alone. Another factor that may have influenced the result could be the measure itself. The grit scale is not a contextualized measure of passion for academic goals. The items on the scale are too broad to capture the "academic grit" of the freshmen students. Taking this into consideration, this paper suspects that the participants may have given their responses about their passion for a goal outside academic. In this instance, the numerical value found in this study may not accurately show the true level of grit among freshmen students. A contextualized version of the scale may be a more appropriate measure of grit in an academic context.

5.2 *College adjustment and academic performance*

The descriptive result suggests that, in general, freshmen students in this study were uncertain whether or

not did they adapt to college life. This may be because, at this point in their academic journey, it might be too early to assume that they have already well adjusted. However, the correlational analysis found that college adjustment was not significantly related to academic performance. The current finding contradicts the previous study by Abdullah et al. (2010). Although the latter finding suggests that academic adjustment significantly shapes college students' academic performance, the present study suggests otherwise. This paper assumes that the predictive power of college adjustment may not be consistent across contexts and instances. In the context of Filipino freshmen students, college adjustment may not directly translate to academic performance but to external factors that also influence performance. This assumption stems from the result which suggests that college adjustment was positively related to grit and happiness.

Previous studies suggest a similar result. The ability of college students to adjust to academic life is somehow predicted by social interaction and well-being (Buhs & Ladd, 2001). Students with a low level of happiness may struggle to adjust to their academic challenges (Quan et al., 2014). This paper further assumes that the influence of academic adjustment does not operate on a unidirectional trajectory. In short, academic adjustment buffers other factors that may also influence academic performance but not directly on academic performance. However, because this assumption was not directly tested in this study, it can only be validated in future research.

Lastly, the academic adjustment does not directly reflect academic performance. A college student may have well-adjusted in college but does not perform well academically. The result may further suggest that the ability to adjust may not a prerequisite to better academic performance. The finding of this study challenges the popular belief that academic adjustment is key to academic success. As mentioned, the academic adjustment does not directly relate to academic performance but other distal factors. It, therefore, serves as a buffer or moderating construct to latent variables responsible for influencing academic performance.

5.3 Happiness and academic performance

Generally, the descriptive analysis suggests that the level of happiness of freshmen students in this study was low. Roughly, the freshmen students were unhappy. However, among the assumed predictor variables in this study, only happiness showed a significant relationship with academic performance. The result indicates that happier students tend to perform better than unhappy ones. But the strength of the relationship might not be enough to draw a definitive conclusion. Nonetheless, the present finding echoes the previous studies suggesting that happiness was related to students' academic performance (Mohammadi, 2015; Tabbodi, Rahgozar, & Abadi, 2015; Manzoor, Siddique, Riaz, & Riaz, 2014). If past studies can be held correct and constant across instances, happy students may be more successful than the unhappy ones.

But this is not always the case. In some studies, happiness was inconsistently related to students' academic performance (Bücker et al., 2018). The previous study also found similar results suggesting that happiness did not predict college students' examination performance (Lumontod, 2018). The inconsistency of the findings may suggest two things. First, as much as academic performance, happiness is a complex human's emotional tendency which is partially if not generally predicted by distal factors often neglected by most correlational studies. Previous findings revealed that the motivation to succeed in school (Ramzan & Galin, 2013), income (Tuntiwarodom & Potipiti, 2008) and personal interpretation of one's experiences (Veenhoven, 1997) had been affecting and shaping college students' happiness. Thus, assessing what variables could certainly predict happiness may always be a challenge. Second, like happiness, academic performance is also a complex and almost unpredictable behavioral outcome that triggers more questions than definitive answers. This assumption is evident in previous findings. Academic performance was linked with personality factors (Poropat, 2009), cognitive test anxiety (Cassady & Johnson, 2002), perceived significance of education (Li, Chen, & Duanmu, 2010), nutrient intake (Florence, Asbridge, & Veugelers, 2008), physical exercise (Archer & Garcia, 2014), the ability to manage one's own and others' emotion (Rajaeepour & Mohammadi, 2014), interpersonal relationships (Fatima & Shafique, 2015) and parental occupation (Rathore & Sangwan, 2015) were all related to students'

academic performance.

Findings from correlational studies can only pose suggestions but not ubiquitous fact. Thus, interpretations should only be anchored on probability, not on certainty. The vast number of predictive factors that surround academic performance, happiness may only have a piece of it. Therefore, happiness may not have the strongest effect on freshman students' academic performance. Lastly, the unhappy freshmen students in this study had good academic performance. The finding may strengthen the assumption that happiness may not always result in high academic performance. Happiness does not necessarily lead students to perform better in school. A student can be happy due to external factors not related to the academic context. In effect, such positive emotion might not be translated to better academic performance.

Nonetheless, the observed level of happiness among freshmen students in this study reveals not only an empirical fact but also a vital clue for academic institutions in enhancing academic policies. If happiness predicts academic success especially among freshmen students, then appropriate actions that will directly address the issue at hand may be deemed necessary to increase students' well-being. Higher academic institutions should design and promulgate some sort of intervention to increase students' well-being.

5.4 The role of grit, college adjustment and happiness on academic outcome

The results of inter-correlations suggest unexpected findings. As previously discussed, the grit did not significantly link to academic performance. Similarly, college adjustment also shows no significant relationship with academic performance. However, college adjustment had a significant positive relationship with grit. Lastly, happiness had a significant relationship with academic performance, grit and college adjustment. However, regression analysis shows that only college adjustment and happiness had significantly predicted freshmen students' academic performance. Several surprising results are noted. First, grittier freshmen students also had better college adjustment. The present finding may be the first to document the existing relationship between grit and college adjustment. The present result may strengthen the assumption that grit does not directly translate to academic success; rather, it boosts other independent factors behind the academic performance. In the case of freshmen students in this study, their passion for long term goals helps them adjust and adapt in the academic environment. But the ability to adjust in college, as the result suggests, might not imply higher academic success. More future investigations are needed in this area.

The second important finding of this study is the significant positive relationship between grit and happiness. This may imply that grittier freshmen students were also happier. The current finding is consistent with the previous results. For instance, the study of Hill, Burrow, and Bronk (2016), Singh and Jha (2008), Akbağ and Ümmet (2017) found that grittier students were also happier. The current finding is one of the few studies that documented the existing relationship between grit and happiness. But how does grit promote happiness?

The third and final important finding suggests that happiness is also correlated with college adjustment. Happy students were more capable of adjusting with the academic life than the unhappy ones. The observed relationship may more than what it seems. Although not directly tested in this study, this paper assumes that the previously discussed relationship between grit and happiness may be mediated by college adjustment. In short, grit may not necessarily make freshmen students happy. The observed relationship might be the mediation effect of college adjustment on the relationship between grit and happiness. Well-adjusted students may be more capable of dealing with academic challenges and build better social capital. Although academic adjustment did not imply higher academic success, it helps freshmen students thrive in their academic journey.

Furthermore, the regression analysis shows that although academic adjustment emerges as a significant predictor, its influence on the variability of academic performance is meager. Students' happiness seemed to show a more promising predictive power on academic performance. But the combined predictive ability of academic adjustment and happiness was not enough to explain more than 95% of the variance of freshmen students' academic performance. This may only suggest that several latent factors not included in this study may

have been influencing academic performance.

In sum, freshmen students' grit and academic adjustment were not significantly related to academic performance measured by GPA. Only happiness shows a low but significant relationship with academic performance. Further analysis suggests however that grit, academic adjustment, and happiness are inter-correlated. The fact that only happiness was significantly linked with academic performance, it could be possible that happy students may also be grittier and have a high level of academic adjustment. The present finding further assumes that grit and academic performance mediate the relationship between happiness and academic performance. A reciprocal interaction among independent variables may exist in such a way that one influences the other. That said, it is possible that grit increases academic adjustment, and academic adjustment directly influences happiness which in turn influences academic performance.

It is important to note that freshmen students in this study had a low level of grit, academic adjustment, and happiness. This may suggest some serious issues in academic contexts. The finding of Ez ElArab, Rabie, and Ali (2014) suggest that the lack of sleep negatively affects students in school. The latter study further shows that sleep problems among university students were mainly due to overcrowded dormitories, internet consumption and watching television. Although these factors did not directly affect the overall learning process, other aspects of students' life may be at stake. This may also be the reason why although they performed well in school; freshmen students in this study had a low level of grit, academic adjustment, and happiness. Thus, it may be deemed important that academic institutions establish programs that directly take care of freshmen students' needs. The program should examine and address the issues related to the psychological well-being of the students. Teachers and academicians should take into account the individual differences of the freshmen students and their current experiences. Also, school systems should realize that GPA, as most schools use to label students' success, is not an accurate measure of students' true potential. Each student's personal experience both inside and outside the campus should be taken into consideration in assessing academic performance, especially when dealing with freshmen. Furthermore, school counselors need to provide interventions for freshmen students to cope and adapt to academic challenges. Lastly, parents should provide encouragement and guidance for their sons and daughters to help them successfully traverse the academic hurdles.

6. Conclusion

The result of this study resulted in several conclusions. First, freshmen's grit and college adjustment level were not found to have a significant relationship with academic performance. Happiness was the only factor that significantly predicts freshmen's academic performance. Second, this paper concludes that, although not directly tested in this study, grit and college adjustment may have mediated the relationship between happiness and academic performance. Thus, the predictive ability of happiness on academic performance may be dependent on the influence of grit and college adjustment. Therefore, the grittier the students, the more capable they are in adjusting with their academic life, the happier they become, and the better the academic outcome they achieve.

6.1 Limitations and recommendations for future studies

Although the present investigation shows surprising results, the findings should always be interpreted with mindful consideration of the limitations. With all the correlational studies, the main source of weakness is the design itself. Because correlation does not mean causation, findings can hardly stand as conclusive facts. This might be one of the reasons behind inconsistencies in the previous findings.

Another limitation that should be put into consideration emanates from the scales. The questionnaires being used in this study are general. For instance, the grit scale does not directly measure students' passion for their long term academic goals. Rather, the items focus on the general grit of students. As a result, the data gathered may not be the exact reflection of the students' grit level in an academic context. If this observation is correct, then the inappropriateness of the measure may be the plausible reason behind the insignificant relationship

between grit and academic performance. Hence, a contextualized version of the scale will be more accurate to use in an academic setting. The same suggestion goes to all the scale used in this study.

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