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RESEARCH ARTICLE

Roles of Internal Locus of Control and Grit in Managing the Academic Stress of Senior High School Students in a State University in the Philippines

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Abstract

Any individual who transitions through different stages of life inevitably experience stress, especially adolescents who undergo physiological and psychological changes. This is the stage where they have to make relevant decisions including the academic courses they have to take for their future career. The overwhelming expectations that they are experiencing from their family, teachers, and society to excel academically have been shown to cause distress among adolescents. It is, therefore, becomes imperative to study possible protective factors to formulate efficient intervention techniques. Two of the most studied constructs that have been linked to academic success are the internal locus of control and grit. However, available studies investigating these two constructs with academic stress especially among Filipino adolescents have remained scarce. The current study explored the roles of internal locus of control and grit in managing academic stress. A sample of 165 senior high school students from Southern Luzon State University-Main Campus were involved in this study. Results showed that both grit and internal locus of control are negatively correlated with academic stress. It was also shown that grit is positively associated with an internal locus of control although one is not a predictor of another.

KEYWORDS:

Adolescence, Academic stress, Grit, Internal Locus of Control

1 | INTRODUCTION

Adolescence is considered one of the most stressful periods in our lives. Hall (1904 as cited in Buchanan Hughes, 2011) even described adolescence as a period of "storm and stress". It is the period where an individual experiences several physiological and psychological changes (Romeo, 2013), and along with these changes are the different demands and expectations from their environment. This transitional period occurs not only within their personal spaces and societal context but even in the institutional setting – the transition to a higher level of education, which includes several and interconnected stressors that make this process even more stressful for adolescents (Reddy et al., 2017).

Living in a credential society can be very stressful because it creates an atmosphere of competition among its members. With this, most people believe that the gateway to success is to have an impressive educational background, which is why parents demand their children to study hard. This overwhelmingly competitive environment has put adolescents in a situation in which they are being pressured with their decisions on what academic courses they need to take for their future professions. After

deciding what course, they should take, they are now faced with different academic demands such as meeting their teachers' expectations, maintaining excellent academic performance, being able to answer and participate in class, and even competing with their classmates (Lal, 2014). These academic - related events that can cause distress to adolescents are referred to as academic stress. Academic stress can be defined as the students' body response to any academic - related demands that surpass their coping abilities (Wilks as cited in Alsulami et al., 2018). Mazo (2015) pointed out that the common stressors of students are related to their academic subjects - various requirements, projects, quizzes, examinations and recitations, their finances, family problems, romantic relationships, and even with their school professors. Academic stress has been reported to be high among students especially during the unexpected transition from face to face to online classes due to the COVID-19 pandemic. While there are already some open universities here in the Philippines that have used the digital platform in learning, this type of learning still remains unchartered for majority of the schools especially in rural areas. The slow internet connection, lack of technological tools such as laptop, tablet or cellphone, and larger volumes of academic works are just some of the causes of academic stress being experienced by most students here in the Philippines. In addition, since digital learning requires the use of technological devices such as laptops and computers, those students who belong in the lower socio-economic status are having difficulties in attending their online classes. With this, the inequality of access becomes an indication of academic stress to students who are unable to attend their online classes and submit their requirements, thus being left behind from their peers (Mahapatra Sharma, 2020). These conditions have led to students to experience distress, depressive and anxiety symptoms, and even suicidal attempts in worst cases (Fegert et al., 2020). Aside from the fact that academic stress is linked with mental health (Subramani Kadhiravan, 2017), it has a significant effect on the performance of students specifically in a negative way, yet no significant difference was found between males and females (Khan and Kausar, 2013). This also results in significant decrease motivation, reduction of academic achievement, and increase number of school dropouts (Pascoe, Hetrick, Parker, 2020).

Although several studies have already provided strong empirical evidence that prolonged and increased stress levels could result in physical and mental health problems (Alsulami et al., 2018, Yaribeygi, et al., 2017), it is also noteworthy to consider that the effects of stress can vary from one individual to another. Some show maladaptive responses to stress while some tend to be more resilient to stress (Xin et al., 2017). Considerable pieces of evidence have confirmed the idea that personality traits can serve as an essential factor in reacting to stress (Afshar, et al., 2015). In recent years, grit, which is defined by having perseverance and passion for long-term goals (Duckworth et al., 2007), has been considered as a substantial predictor of academic success (Kannangara, al., 2018). Grit involves the ability to work persistently through challenges and sustaining effort and interest despite failures and difficulties over a long period (Duckworth et al., 2007). An increased number of studies has also provided evidence supporting the relationship between grit and other indicators of well-being outcomes, which therefore suggests the protective roles of grit against mental health problems (Musumari et al., 2018). Studies on grit show that there is a significant association between grit and anxiety, which is similar to the study of Dergisi (2018), who also pointed out that there was a significant and inverse association between the respondents' grit, depression, anxiety, and stress levels. Similarly, Musumari et al. (2018) also highlighted that grit is inversely related to mental health problems, particularly depression and anxiety. Thus, intervention programs intended to promote grit could play a vital role in preventing mental health problems among students. Another concept that can be associated with grit and can also have protective effects on academic stress is internal locus control. According to Rotter (1966 as cited in Sagone and De Caroli 2013), internality is when an individual expects that one is responsible for achieving rewards from one's environment, externality, on the other hand, is when an individual believes that the rewards are out of one's control and believes in luck or chances. Individuals with an internal locus of control feel that they have a choice and are in control of what happens in their lives. Such individuals usually tend to feel happier, free, and less stressed. Similar to grit, internal locus of control has also been studied to have a positive association to academic achievement (Bulus, 2011). Students who are more inclined with an internal locus of control have less academic stress Karaman et al. (2019) and have higher resiliency allowing them to be more able to deal with stressors Kronborg et al. (2017). They are less prone to stress compared to individuals with an external locus of control who are more apt with getting stress (Khan et al., 2012). Evidence has also suggested that an academic locus of control is a critical predictor of grit (Sariçam Çelik, 2018).

Unfortunately, studies relating internal locus of control with mental health outcomes, and researches concerning grit to different mental health outcomes are still limited (Datu et al., 2019), specifically in the Philippines. But since there are considerable amounts of studies providing shreds of evidence on how grit and internal locus of control can lead to positive results, the potential protective effects of grit and internal locus of control to academic stress can also be considered. Nevertheless, given the scarcity of studies about the possible roles of grit and internal locus of control to mental health outcomes such as academic stress as well as studies about mental health concerns in the Philippines, this research aims to build evidence on the possible impact of grit and internal locus of control to academic stress. More specifically, the researchers will attempt to assess the students' level of academic stress, grit, and internal locus of control. The researchers will also investigate the possible connection between academic stress, grit, and internal locus of control. In addition, this study also aims to determine whether grit and internal locus of control are significant predictors of one another. Furthermore, the results of this study could hopefully provide insights that can be a pathway to a mental health program in an educational setting that aims to promote the well – being and to prevent mental health problems among adolescents.

2 | METHODOLOGY

2.1 | Research Design

In this study, the researchers used the quantitative research design to assess the levels of academic stress of the students as well as to gauge the extent of the possible relationships of the variables in this study, such as grit and internal locus of control. The researchers particularly used the descriptive method of research to be able to describe the possible roles of grit and internal locus of control in academic stress.

2.2 | Respondents

The target respondents in this study were senior high school students from Southern Luzon State University, Lucban Quezon. The researchers initially forwarded necessary letters to the school administration to seek permission to conduct the study. Informed consent was also given to the respondents who will participate in this study. After the permission will be granted, the researchers discussed the contents of the informed consent to each participant. All respondents from SLSU Senior High School with a total number of 190 were included in the preliminary procedures. They were given the Rotter's Locus of Control Scale which served as the screening tool to determine who among the respondents have an internal locus of control which is one of the variables being investigated in this research. A total of 165 students appeared to have average to high levels of internal locus of control among the total number of senior high school students and were the ones who continued to be part of this research and answered the remaining psychological tests. Furthermore, the researchers were also responsible for explaining the test results to those respondents who were not able to pass the screening tool.

2.3 | Research Instruments

The research instrument included an introductory part for the demographic profile of the respondents. The profile was comprised of the age, gender, and academic strands of the respondents. To screen those respondents who have average to high levels of internal locus of control, the researchers administered the Rotter's Locus of Control Scale (Rotter, 1966). This test is composed of a 29-item forced choice-test including 6 filler items. In each statement, the respondents have to choose the statement that they agree with the most. The Rotter's Locus of Control Scale has demonstrated good psychometric properties with internal consistency ranging between 0.65 to 0.79 (Roshini Zinna, 2019).

To measure the levels of academic stress, the researchers utilized the Educational Stress Scale for Adolescents (ESSA), which is developed by Sun et al. (2011). It is a 16-item questionnaire that can assess five latent variables including pressure from study, workload, worry about grades, self-expectation, and despondency (Sun et al., 2011). Moreover, ESSA has been validated to be administered to Asian students specifically to Chinese (Sun et al., 2011) and Vietnamese students (Truc et al., 2015), and has shown good internal consistency and validity. Lastly, to measure the respondents' grit level, the researchers administered the Short Grit S Scale (Grit – S) (Duckworth Quinn, 2009), which consists of eight items that intend to measure one's trait-level perseverance and long–term goals. It has been reported to have good reliability and validity measures (Duckworth Quinn, 2009).

2.4 | Data Gathering and Ethical Considerations

Research instruments were administered online with the assistance of a registered psychometrician. Informed consent forms containing the nature and purpose of the study were discussed and accomplished. It was further explained that participation in the study was completely voluntary and respondents can withdraw anytime without any disadvantage. The researchers also asked for their permission in taking their pictures while answering the tests which were used for documentation purposes. The

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data gathered which including the respondents' identities were kept anonymous and confidential. There was no remuneration or any form of reciprocity for participating.

2.5 | Data Analysis

The gathered data were collated and analyzed using the appropriate descriptive and inferential statistics. The descriptive statistics on the demographic profile of the respondents were presented in frequency count and percentage distribution. Meanwhile, correlation and multiple linear regression analyses were used as statistical treatment using Statistical Package for Social Sciences (SPSS) in determining the relationship among academic stress, grit, and internal locus of control.

3 | RESULTS AND DISCUSSION

Table 1 shows the demographic profile of the respondents. As shown, the majority of the respondents are aged 17 years old (45.5%), while the rest of the respondents are aged 16 (21.8%), 18 (30.9%), and 19 years old (1.8%). In addition, 73.9% of the respondents are females while 43 of the 165 respondents are males. In terms of their academic strands, most of the respondents are from STEM (47.9%), while more than half of the respondents are either from ABM (32.1%) or from HUMSS (20%).

Age	Frequency	Percent	
16	36	21.8	
17	75	45.5	
17	75	45.5	
18	51	30.9	
19	3	1.8	
Total	165	100	
Gender	Frequency	Percent	
Female	122	73.9	
Male	43	26.1	
Total	165	100	
Academic Strand	Frequency	Percent	
Accountancy, Business and Management (ABM)	53	32.1	
Humanities and Social Sciences (HUMSS)	33	20	
Science, Technology, Engineering and Mathematics (STEM)	78	47.9	
Total	165	100	

TABLE 1 Frequency and percentage distribution of the respondents' age, gender and academic strand.

Table 2 presents the respondents' level of academic stress, grit, and internal locus of control. It can be observed that the respondents obtained a mean score of 3.07 which indicated moderate levels of academic stress. AlAteeq et al. (2020) explained that factors such as difficulties in studying, problem-solving, managing their time as well as being worried about their grades and the future have contributed to their stress. In terms of the respondents' level of grit, results showed that they also have average levels of grit. This could only imply that the students can persevere in the face of adversity since grit is shown to be related to emotional stability during stressful life events (Blalock et al., 2015). Lastly, although the researchers only included

those students who have an internal locus of control, it is still relevant to determine the quantitative measure as to how high is the level of internal locus of control of the students. The results showed an average level of internal locus of control among the students with a mean score of 70.42, which suggests that the students believe that they are in control of their lives and are solely responsible for their success or failure. Average to high levels of internal locus of control among students can buffer the impacts of academic stress, because students who perceive themselves as more likely to be in control in their everyday life circumstances, the more they perceive themselves as academically efficient (Sagone De Caroli, 2014).

TABLE 2 Mean and SD of the respondents	' level of academic stress, grit and internal locus of control.'
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	Mean	SD
Academic Stress	3.07	0.68
Grit	3.5	0.55
Internal Locus of Control	70.42	5.85

†N=165

Table 3 shows the association between academic stress, grit, and internal locus of control. Particularly, results show that the relationship between academic stress and grit is negative though weak (r=-0.33). This only implies that as the student's grit levels increase, there is a small decrease in the number of academic stress levels. One possible explanation for this is that grit is associated with different indicators of well-being outcomes and quality of life suggesting that grit could have protective roles against adversities (Musumari et al., 2018). Another explanation for such a relationship might be because grit is shown to be related to help-seeking behaviors which could serve as an underlying factor for students' coping and search for social support, which in turn can help decrease academic stress (Mosanya, 2020).

TABLE 3 Pearson coefficient between academic stress, grit and internal locus of control.

	Grit	Internal Locus of Control	
Academic Stress	-0.33	-0.02	
Internal Locus of Control	0.08	-	

In addition, a weak negative relationship can also be seen between academic stress and internal locus of control (r= -0.02) indicating that students who have moderate to high levels of internal locus of control have lower levels of academic stress. This suggests that an increase in academic stress was associated with a small decrease in the levels of internal locus of control. The inverse relationship between academic stress and internal locus of control supports existing evidence since internals is more likely to engage in protective actions and believe that their actions are relevant while externals may feel less in control which could lead to negative feelings (Sigurvinsdottir et al., 2020). Although a negative association exists between the two variables, the strength of their association is weak. This can be because the nature of the stressor during times of sustained uncertainty can have an impact on the strength of association between psychological distress and internal control (Alat et al., 2021). In situations where there is a reduced individual objective control which was experienced during the sudden lockdown because of the COVID-19 pandemic, the impact of internal locus of control is only moderately effective (Alat et al., 2021), or in some cases can also lead to psychological strain (Reknes et al., 2019). To further support this, Hartley and MacLean (2005) explained that when an individual perceives a stressful event as highly controllable, active coping mechanisms are being used which is

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associated with less psychological distress as compared when distressing events are perceived as uncontrollable. Furthermore, a weak positive correlation can be seen between internal locus of control grit (r=0.08). This implies that as the internal locus of control increases, the grit level also increases. However, it can be noted that although there is a direct relationship between the two variables, it has a weak association. One possible explanation for this is that although an association may seem present between the two variables, it is still possible that there are still other important facets or factors that might have an impact on the independent variable. This can be supported in a study by Çelik and Sarıçam (2018) which demonstrated that directly investigating the relationship between internal locus of control and grit remains scarce. This only implies that although some individuals believe that they are in control over the events that influence their lives, it does not necessarily mean that they can persist in achieving long-term goals. Likewise, some individuals are immensely gritty but would yield to temptations.

Table 4 presents the linear regression model for grit as a predictive factor of internal locus of control. Consistent with the prior results, a positive but weak correlation is seen between the two variables (r=0.08). The R2 indicates that grit explains less than 1% (r2 = 0.0064) of the total variance of the internal locus of control. Based on this data, it can be assumed that grit is not a predictive factor of internal locus of control (p=0.3058), sig. <0.05. One possible explanation for this is that although grit and internal locus of control are related to one another, these two psychological constructs are different from one another.

TABLE 4 Linear regression analysis results for grit predicting internal locus of control.[†]

Variable	R	R ²	t	р
Grit	0.0802	0.0064	1.0274	0.3058

†sig. <0.05, Independent Variable = grit, Dependent variable = internal locus of control

Table 5 demonstrates the linear regression model for internal locus of control as a predictive factor of grit. As stated in the previous results, a positive but weak correlation is seen between the two variables (r= 0.08). On the other hand, the internal locus of control explains less than 1% (r2 = 0.0064) of the total variance of grit. Hence, it can be inferred that the internal locus of control is not a predictive factor of grit (p=0.3056), sig. <0.05. These results contradict the study of Çelik and Sarıçam (2018) which suggests that internal academic locus of control and positive thinking skills are important predictors of grit, though it only explained 50% of the grit's total variance. One possible reason is that although individuals with high levels of self-control can regulate their actions (e.g. attention, temptation), this does not necessarily mean that they can persist in achieving their goals in life (Kannangara, et al., 2018).

TABLE 5 Linear regression analysis results for internal locus of control predicting grit.†

Variable	R	R ²	t	р
Internal locus of control	0.0802	0.0064	1.0274	0.3056

†sig. <0.05, Independent Variable = Internal locus of control, Dependent variable = grit

4 | CONCLUSION

In conclusion, the respondents showed average levels of academic stress, grit, and internal locus of control. Both internal loci of control and grit had a negative relationship with academic stress which is consistent with the studies indicating that grit and

internal locus of control can have positive roles against academic stress. Although the direction of the relationship is consistent with previous studies, the strength of the association between the variables which was relatively weak is contradicting the previous evidence. This can be because the extent of the positive effects of grit and internal locus of control vary and depend on the certainty levels of the stressor and whether the stressor can be easily controlled or not. Relatively, results also showed that while grit is positively associated with an internal locus of control, they are not significant predictors of one another. This study recommends conducting a similar study to college students since there were research studies that provided significant findings that grit levels tend to be higher for older individuals. Further study may also be conducted to investigate what coping mechanisms do students who have moderate to high levels of grit and internal locus of control employ in managing academic stress. On the other hand, the following were the limitations of the study: (1) results were gathered from students enrolled in the same university; (2) the data gathering was done online, therefore it is difficult to tell the validity of the students' answers; (3) the tests administered were based on Western-developed theory. Because of these limitations, the researchers suggest having a more vigorous and thorough investigation of the topic despite the statistical evidence presented.

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