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Academic self-regulation and academic performance of humanities and social science students

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Abstract

The goal of this research is to find out if the Academic Self-Regulation can predict the Academic Performance of Grade 11 students enrolled in the subject Disciplines and Ideas in the Applied Social Sciences by analyzing the Regression Model. In this study, the Quantitative-Descriptive method was used. The results revealed that: a) Identified Regulation is the highest while the Intrinsic Motivation is the lowest; b) there is a significant difference in the academic performance of the students, female students have higher grades compared to males; c) there is no significant difference in the self-regulation of the students; d) significant difference exists within the self-regulations so Post Hoc Analysis was employed; e) based on Bonferroni post host test there is no significant difference between Introjected Regulation and Intrinsic Motivation; f) the overall regression model is not statistically significant to predict the Academic Performance of the students.

Keywords: Academic self-regulation, academic performance, motivation, senior high school, humss, K to 12

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1. Introduction

Humans are born with the ability to motivate themselves. The driving force must be sufficient to achieve a specific objective; else, disappointments and failures will be the result. External stimuli, an organism's internal state, purpose and inclination, and tools for achieving the goal all have an impact on motivation (Amrai et al., 2011). Individuals are concerned with inspiration — how to motivate themselves or others to act. In all places, regardless of parents, teachers, coaches, and managers, some struggle with how to motivate those they mentor, and people struggle to discover vitality, activate exertion, and persevere in daily lives and work External factors such as reward systems, grades, evaluations, or the opinions they fear others will have of them frequently move people. However, people are frequently inspired from within, whether by interests, curiosity, care, or enduring values. These internal motivations are not always rewarded extrinsically, but they can sustain passions, creativity, and long-term efforts.

The manifestation of controlled and autonomous functioning is evident in the teaching-learning process. Activities that will persuade the learners to engage are not just commonsensical done by teachers, but it is structurally apparent in the preparation of the daily lesson plans and logs. It sounds compelling for teachers to prepare inducing learning stimuli to ensure the attainment of lesson objectives, and sometimes these are in the form of rewards.

Republic Act No. 10533, otherwise known as the "Enhanced Basic Education Act of 2013" led to the additional two years of specialized upper secondary education or the Senior High School (*Republic Act No. 10533 | GOVPH,* n.d.). One of the strands under the Academic Track is the Humanities and Social Sciences (HUMSS). It is intended for students planning to pursue higher education in journalism, communication arts, liberal arts, education, or other social science-related fields. As far as the researchers know, HUMSS students are mostly inclined to courses related to this strand, whilst few are still uncertain or influenced by others, like relatives and friends. With

these, it would be interesting to delve into the Self-Regulation of the students and their academic performance in the specialized subject.

2. Review of Related Literature

Self-regulation and academic achievement have shown that having strong self-regulation skills is associated with school success in both reading and mathematics (Adams & Snowling, 2001; Connor et al., 2010; Day, Connor, & McClelland, et al., 2015; Lin, Coburn, & Eisenberg, 2016; St. Clair Thompson & Gathercole, 2006, as cited Day & Connor, 2017).

Research in Social Psychology has indicated that it may lead to overjustification and might diminish intrinsic motivation. Extrinsic motivation, according to self-determination theory, can be internalized by an individual if the work aligns with their values and beliefs and hence helps them meet their core psychological needs. (Tohidi & Jabbari, 2012). Intrinsic motivation is significant for educators because it is a natural source of learning and accomplishment that may be systematically promoted or diminished by parent and teacher practices (Ryan & Stiller, 1991 as cited by Ryan & Deci, 2000). It leads to high-quality learning and creativity, thus it's crucial to understand the variables and forces that encourage or discourage it (Ryan & Deci, 2000). So, this leads to extrinsic and intrinsic motivation being essential in the learning and academic competence of the learners. Both teacher and students should work together to achieve academic success. Teachers' preparations, strategies, materials, and inclination to help the students should be valued, further it will be futile if the internal driving force is not lodged in every student.

Self-Determination Theory has the distinction of behavioral regulation: autonomous or self-determined which is the prototype of Intrinsic Motivation versus controlled functioning or Extrinsically motivated activity. Innately motivated people are self-driven (Deci & Ryan, 2015).

Theoretical Framework

Self-Regulation Theory (SDT) distinguishes several types of behavioral regulation based on how autonomous or self-determined (as opposed to managed) functioning they reflect. People who are intrinsically motivated are self-determined by definition. In contrast, extrinsically motivated activity is frequently more controlled (i.e., less autonomous). SDT, on the other hand, distinguishes varieties of extrinsic motivation based on their degree of internalization, implying that the more thoroughly internalized and integrated it is with one's self, the more it will serve as the foundation for autonomous conduct. External regulation, introjected regulation, identifiable regulation, and integrated regulation, in order from least to most deeply internalized, are the four types of behavioral control (Ryan & Deci, 2000).

Statement of the problem

The main purpose of this study is to find out whether the Academic Self-Regulation could predict the Academic Performance of the students and if a good regression model will emerge.

Specifically, the researcher aims to find answers to the following questions:

1. How can the profile of the respondents be described in terms of

    1.1 gender;

    1.2 academic performance?

2. What is the Academic Self-Regulation of the students in terms of

    2.1 External Regulation;

    2.1 Introjected Regulation;

    2.3 Identified Regulation;

    2.4 Intrinsic Motivation?

3. Is there a significant difference in the Academic Performance and Academic Self-Regulation when grouped according to gender?

4. Is there a significant difference within the Academic Self-Regulation of the students?

5. Can the Academic Performance be significantly predicted by the Academic Self-Regulation through the Regression Model?

3. Methodology

The descriptive survey method was utilized in this research because the researchers believe it suits the purpose of determining the Academic Self-Regulation and Academic Performance of the students.

Selection of Participants

The respondents in this study were the Grade 11 Senior High Schools students of Manuel G. Araullo High School under Humanities and Social Science Students. There are 41 respondents in this study. Intentionally, participants were chosen using the universal sampling technique. In this technique, Fraenkel and Wallen (2005) discuss that the researcher had chosen all respondents as they are qualified, and they are all indeed needed in the said study. Although not all students were able to participate because during the administration of the survey questionnaire some were absent.

Data Gathering Tools

The researchers used the Academic Self-Regulation Questionnaire (SRQ-A 1st Version), one of the questionnaires from The Self-Regulation Questionnaires. This concerns the reason why children do their school work. The scale was developed for students in late elementary and middle school. The researchers believed that it is still suited for senior high school students because generally, the Self-Regulation Questionnaire evaluates individual differences in motivation and regulation across domains. The inquiries, in other words, are about the management of a certain behavior or set of actions.

The original edition of the SRQ has been utilized in numerous studies of schoolchildren. It poses four questions to kids about why they engage in various school-related activities. Following each question,

multiple responses illustrate the four regulatory styles. Very True gets a 4, Sort of True gets a 3, Not Very True gets a 2, and Not at All True gets a 1. A higher score indicates a stronger level of support for that regulatory type. External regulation, introjected regulation, identifiable regulation, and intrinsic motivation are the four subscales in the SRQ-A. Validation of this scale is presented in Ryan and Connell, 1989 (Alivernini et al., 2011)

The Academic Performance of the students was based on the class record of the teacher in the subject Discipline and Ideas in Applied Social Sciences who is also one of the researchers.

Statistical Treatment

To ensure valid and realistic data presentation and analysis, Statistical software, JASP version 0.8.0.1 was used. This statistical package is a freeware and open-source graphical program for statistical analysis and a good alternative to SPSS. The following statistical treatments were employed: Students' self-regulation and academic performance were described using descriptive statistics; an Independent t-test, which tested the significant difference between males and females in the academic performance and self-regulation; One-way ANOVA Repeated Measure, which tested the difference within the academic self-regulation of the students; Multiple Regression, to know if the academic performance can be predicted based on the values of external regulation, introjected regulation, identified regulation, and intrinsic motivation.

To find the degree of variance of the weighted mean, the scale below was used:

3.50 - 4.00 – High Regulation
2.50 – 3.49 – Moderate Regulation
1.50 – 2.49 – Low Regulation
1.00 – 1.49 – No Regulation

4. Results and discussions

Table 1 shows the students' demographic data in terms of gender. A total of 41 Grade 11 students under the Humanities and Social Sciences strand were involved in this study. Twenty-four were female respondents, and there were 17 male respondents.

Table 1
Gender of the Students

GENDER	Frequency	Percent
Female	24	58.50
Male	17	41.50
Total	41	100.0

It can be gleaned from Table 2 that in terms of Academic Performance, the most frequent grade is 87 with 9 students got that rating. Apparently, ratings of 81, 90, and 94 have the least number of students who were able to obtain those grades.

Table 2
Academic Performance

GRADE	Frequency	Percent
81	1	2.40
83	2	4.90
84	6	14.60
85	3	7.30
86	7	17.10
87	9	22.00
88	7	17.10
89	2	4.90
90	1	2.40
91	2	4.90
94	1	2.40
Total	41	100.00

The highest grade obtained by the student in the subject Discipline and Ideas in Applied Social Sciences is 94, while the lowest is 81. These grades were the average of midterm and final grades in the said subject which rounded off in the whole number.

Table 3 depicts the External Self-Regulation of the students. It can be gleaned that the mean score is 3.22 with a verbal description of

Moderate Regulation. In External Regulation, the students either performed in class because of the reward that they will gain such as high grades or additional points in a certain activity or to dodge negative consequences that they might receive for not doing class-related tasks.

Table 3
External Regulation

Score	Frequency	Percent	Description
3.50 to 4.00	8	19.51	High Regulation
2.50 to 3.49	32	78.05	Moderate Regulation
1.50 to 2.49	1	2.44	Low Regulation
1.00 to 1.49	0	0.00	No Regulation
Total	41	100.00	
Mean	3.22		Moderate Regulation
SD	0.39		

The majority of 32 respondents have moderate external regulation, only 1 student has low external academic regulation. Students did their homework because that is what they were supposed to do and thought that they will get into trouble if they are not. In doing their classwork they avoid the possibility of the teacher yelling at them, likewise, they understand it is part of the rule in the class. Due to its controlled nature with feelings of inner compulsion and conflict with those externally managed students, external regulation is regarded as an external perceived locus of cause. (Vansteenkiste et al., 2009; Olsson, 2008, as cited by Hon-keung et al., 2012).

Table 4 presents the Introjected Regulation of the students, with a weighted mean of 3.07 with a verbal description of Moderate Regulation. In this type of motivation, students followed because of a sense of obligation or wanted to prove something either to their teacher, parents, or classmates, which is an indication of the relatively

controlled form of extrinsic motivation. Twenty-nine respondents scored from 2.50 to 3.49 which supports that the students' academic self-regulation in terms of introjection is moderate. No students scored low regulation an implication that they recognized that home works, class works and other related school activities are part of their obligation in learning Discipline and Ideas in Applied Social Sciences.

Table 4
Introjected Regulation

Score	Frequency	Percent	Description
3.50 to 4.00	7	17.07	High Regulation
2.50 to 3.49	29	70.73	Moderate Regulation
1.50 to 2.49	5	12.20	Low Regulation
1.00 to 1.49	0	0.00	No Regulation
Total	41	100.00	
Mean	3.07		Moderate Regulation
SD	0.44		

Students are trying to do well in class because they will feel proud of themselves, some are doing their home works because they will feel bad about themselves if they do not, and likewise if they do not do well. While others will be ashamed if they will not get it done. Introjected regulation, which is based on the avoidance of guilt and shame, could be very useful in this situation. Although guilt is typically thought of as a positive motivator, self-determination theory implies that guilt-based, introjected motivation may be harmful to people's health (Hurst et al., 2017).

Presented in Table 5 is the Identified Regulation of Grade 11 HUMSS students, the overall weighted mean is 3.61 with a verbal description of High Regulation. This implies that the students highly value the importance of school-related work. Individuals exhibit identified regulation when they recognize the reasons for completing a

behavior or when it is personally significant to them. This is a self-determined form of extrinsic motivation because the behavior is non-contingently initiated by the self (Guay et al., 2010).

Table 5
Identified Regulation

Score	Frequency	Percent	Description
3.50 to 4.00	26	63.41	High Regulation
2.50 to 3.49	15	36.59	Moderate Regulation
1.50 to 2.49	0	0.00	Low Regulation
1.00 to 1.49	0	0.00	No Regulation
Total	41	100.00	
Mean	3.61		High Regulation
SD	0.37		

Twenty-six or 63.41% of the respondents have a high regulation which entails that students are doing their classwork because they want to learn new things. They are doing their homework because they want to understand the subject more and see the importance of learning it.

Table 6 shows the Intrinsic Motivation of the respondents with a weighted mean of 2.96 and can be verbally described as Moderate Regulation, attesting this, the 29 respondents who obtained scores of 2.50 to 3.49 with the same verbal description. Intrinsic motivation is the inherent desire for assimilation, mastery, spontaneous interest, and exploration that is so important for cognitive and social growth, as well as a major source of pleasure and vitality throughout life (Csikszentmihalyi & Rathunde, 1993; Ryan, 1995, as cited by Ryan & Deci, 2000).

Table 6
Intrinsic Motivation

Score	Frequency	Percent	Description
3.50 to 4.00	5	12.20	High Regulation
2.50 to 3.49	29	70.73	Moderate Regulation
1.50 to 2.49	7	17.07	Low Regulation
1.00 to 1.49	0	0.00	No Regulation
Total	41	100.00	
Mean	2.98		Moderate Regulation
SD	0.47		

Only 5 or 12.20% of respondents have High Regulation. Students with this regulation are enjoying doing their school work. Academic intrinsic motivation is important for academic learning, achievement, and competency (Ayub, 2010). Intrinsic motivation is derived from the psychological requirements for competence and self-determination (Ryan & Deci, 2000). Furthermore, from childhood to adolescence, those with higher academic intrinsic motivation have been found to be more competent in school, with significantly higher academic achievement, more positive perceptions of their academic competency, lower academic anxiety, and less extrinsic motivation(Gottfried et al., 2005).

In table 7, the significant difference in the academic performance of the students was tested according to their gender. The computed t value of 3.594, with a p-value of <0.001 is less than the 0.05 level of significance at 39 degrees of freedom. Hence, the null hypothesis that there is no significant difference between the grades of female and male students is rejected with Cohen's d effect size of 1.139.

Table 7
The difference in the Academic Performance

	Grades	t	Df	P	Cohen's d	Decision	Description
Female	87.63	3.594	39	< .001	1.139	Reject	Significant
Male	85.18						

The mean grade of 87.63 for females is statistically significant to the mean grade of males which is 85.18. Chee, Pino, and Smith (2005), as cited by (Ayub, 2010) on female college students indicated that female students are more likely to have higher academic ethics than male students, which are characterized by higher academic attainment.

Table 8 shows the difference between the academic self-regulation of male and female respondents. It can be gleaned that External Regulation has computed t value of 0.352 with p-value of 0.727; Introjected Regulation t value is 0.314, p-value 0.755; Identified Regulation t value 0.844, p-value 0.404; and Intrinsic t value is 0.644 with p-value of 0.511. All the p values are greater than the 5% level of significance which is why the null hypothesis there is no significant difference between the Self-Regulation of male and female respondents cannot be rejected.

Table 8
The difference in the Academic Self-Regulation

	External	T	Df	P	Decision	Description
Female	3.24	0.352	39	0.727	Fail to Reject	Not Significant
Male	3.20					

	Introjected	T	Df	P	Decision	Description
Female	3.08	0.314	39	0.755	Fail to Reject	Not Significant
Male	3.04					

	Identified	T	Df	P	Decision	Description
Female	3.66	0.844	39	0.404	Fail to Reject	Not Significant
Male	3.56					

	Intrinsic	T	Df	P	Decision	Description
Female	3.03	0.644	39	0.511	Fail to Reject	Not Significant
Male	2.93					

This may not fully agree with the study on student motivation as a function of gender among Australian secondary school students which discovered that there are variances in the to which boys and girls are motivated, although generally, effect sizes are small, girls are more motivated than boys, but their underlying motivation orientations do not appear to be matriarchal (Martin, 2004)

Presented in table 9, is the difference in the academic regulation of the respondents. Here, a comparison of the four regulations among the students was compared. The computed F value is 40.32 with a p-value of <.000 which is less than the alpha level of 0.05 at 3 degrees of freedom, therefore, the null hypothesis that there is no significant difference in the academic self-regulation of the students is rejected. In the immediate glance, it could be inferred that Identified Regulation has the highest level of motivation because of the weighted mean of 3.61 and Intrinsic Regulation has the lowest mean of 2.98, but to further ensure where the difference lies post hoc analysis is employed.

Table 9
Differences Within the Academic Self-Regulation

	Mean	df	F	p	Decision	Description
External	3.22	3	40.32	< .001	Reject	Significant
Introjected	3.07					

Identified	3.61
Intrinsic	2.98

The result of the Post Hoc comparison within the students' four self-regulation was compared. Bonferroni post host test was used to test the mean difference. It can be gleaned that the p-value of Introjected and Intrinsic Regulations is 1.00 which is greater than the alpha of 0.05, therefore, it favors the null hypothesis that there is no significant difference within the self-regulation of the students. However, the rest of the Academic Self-Regulations have p values of lower than a 5% level of significance, therefore differences exist with the other self-regulations.

Table 10
Post Hoc Comparisons - ACADEMIC SELF REGULATION

		Mean Difference	**p bonf**	**Decision**	**Description**
EXTERNAL (3.22)	INTROJECTED (3.07)	0.157	0.02	Reject	Significant
	IDENTIFIED (3.61)	-0.392	< .001	Reject	Significant
	INTRINSIC (2.98)	0.239	0.01	Reject	Significant
INTROJECTED (3.07)	IDENTIFIED (3.61)	-0.549	< .001	Reject	Significant
	INTRINSIC (2.98)	0.082	1.00	Fail to Reject	Not Significant
IDENTIFIED (3.61)	INTRINSIC (2.98)	0.630	< .001	Reject	Significant

External Regulation of the students is 0.157 higher than the Introjected, 0.239 than Intrinsic, but 0.392 lower than Identified. Identified Regulation is 0.549 higher than Introjected, and 0.630 compared to Intrinsic.

Table 11 presents the Model Summary to determine how well a regression model fits the Academic Self-Regulation and Academic Performance of the students. The multiple correlation coefficient is 0.352 which indicates a low level of prediction, looking further at a coefficient of determination, which is the proportion of variance in the Academic Performance that can be explained by the Academic Self-Regulation (i.e. it is the proportion of variation accounted for by the regression model above and beyond the mean model) which is 0.124. It means that the Self-Regulation can only explain 12.40% of the variability of the Academic Performance of the students.

Table 11
Model Summary

Model	**R**	**R^2**	**Adjusted R^2**
Academic Self-Regulation and Academic Performance	0.352	0.124	0.027

To further test whether the overall regression model is a good fit for the data ANOVA is used to test the statistical significance.

Table 12 shows the F-ratio in the ANOVA, it can be gleaned that Academic Self-Regulation is not statistically significant to predict the Academic Performance of the students in the subject Discipline and Ideas in Applied Social Sciences, $F(4, 36) = 1.273$, $p = 0.299$ is greater than the alpha of 0.05.

Table 12
ANOVA

Model	Sum of Squares	df	Mean Square	F	P
Academic Self-Regulation and Academic Performance	29.7	4	7.425	1.273	0.299
	210.06	36	5.835		
	239.76	40			

Since the overall regression model is not a good fit for the data the researchers decided to halt delving further into the possibility that the Academic Self-Regulation has something to do with the Academic Performance of the students.

Conclusions

To conclude, study findings show that the highest Academic Self-regulation of the students is Identified while the lowest is Intrinsic. There is no significant difference between the Academic Self-Regulation of male and female students, however significant difference exists in their Academic Performance in the subject Discipline and Ideas in Applied Social Sciences, female grades were higher compared to males. There are significant differences within the Academic Self-Regulations except between the Introjected and Intrinsic Regulations. The overall regression model is not a good fit for the data, Academic Self-Regulation is not statistically significant to predict the Academic Performance of the students in the subject Discipline and Ideas in Applied Social Sciences.

An overarching implication from these findings is that more than academic self-regulation factors such as teaching strategies, teaching materials and resources, assessment techniques, and students' abilities must be the direct predictors of the academic performance of the students. These factors should be explored by the researchers in their future research endeavors, for these might give further

information on what to sustain, enhance and regulate in teaching and learning processes.

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