Effects of Students' Academic Competence, Self-Determination, and Motivation On School Performance In Tana Haiq Sec. School

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Abstract: *The major concern of this study was to examine how far academic competence, self-determination and motivation predicted students' school performance. A total of 271 subjects, (128 males and 143 females) were involved in the study. A questionnaire was used to gather data about academic competence, self-determination and motivation of students. Students' performance records in English, Math, Geography and Biology were used to collect the data. Multiple regression, correlation and t-test were used for analyses. Results obtained through multiple regression and beta weights displayed that both academic motivation and competence had statistically significant direct effects on performance (β=0.244 and β=0.159 respectively). Academic self-determination had strong direct effect on motivation (β=0.384) but it had negative effect on performance (β=-0.129). Correlational analyses portrayed that except self-determination, both academic competence and motivation indicated significant association with performance. The t-test revealed that there existed significant average performance difference in favor of males (t =-2.194 α= 0.03, df = 269). The major differences were observed in Math and Biology. Boys performed better than girls in Math and Biology but there was no statistical difference observed in English and Geography. Finally, it was concluded that self-determined students and students who lacked academic competence and motivation would score low in school performance.*

Introduction

According to Wade and Tavris (1990), social or learned motives such as need for affection, power, competence and achievement are acquired through social experiences that can drive an individual in every society to act accordingly. Similarly emphasizing achievement

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motivation, Maehr (1984) contended that of the different types of social motives the motive to achieve has paramount importance in indicating students' level of performance in the school.

Murray (1938) indicated that the need to achieve causes a student to overcome barriers and to surpass the success of others. Such a student is ambitious, competitive and determined to be successful. A student with higher need to achieve is the one who strives to get satisfying academic results in school.

Regarding motivation, Tobias (1994) explained that it is particularly important to develop a better understanding of the impact of motivation on cognitive processes. He discussed that one has to appreciate the role of motivation especially on tasks that require knowledge or mental abilities. According to Cole and Chan (1994), motivation is concerned with personal energy directed towards the achievement of particular goals. They identified determinants that can affect motivation related to academic performance in school. Among these determinants are perceived cognitive competence and intrinsic and extrinsic motivation. Perceived cognitive competence is the result of students' self-evaluation appraisals of their academic performance in school. Intrinsic motivation refers to internalized drive to do things for their own sake or self-reward. On the other hand extrinsic motivation refers to the need to complete a task or perform an activity for the sake of a reward or externally derived satisfaction.

One can clearly understand that students can be activated by both intrinsic and extrinsic motivation. Students need to be satisfied internally in what they do in class, and they also need to be externally motivated to be successful in their academic accomplishments.

Deci and Ryan (1985), as cited in Fortier et al (1995), also maintained that both perceived academic competence and self-determination were determinants of autonomous academic motivation and in turn

autonomous academic motivation predicted students' school performance. These writers coined perceived academic competence as a sense of being effective in academic domain. When students exhibited a high level of academic competence their autonomous academic motivation was maintained. On the other hand when learners felt incompetent in the academic domain their autonomous academic motivation would fall and finally lead them to a drop in their academic performance. The above writers also defined perceived academic self-determination as the capacity to choose among several courses of action at school. Learners need to be allowed to make choices that lead them to be self-responsible and self-directed to accomplish school tasks. If students were given the freedom to make their own choices in the school, their autonomous academic motivation would increase, but if they felt constrained in school their autonomous academic motivation may diminish.

In several recent studies, self-determined motivation has been linked to various educational outcomes across the age span, from early elementary school to college students. Some of these studies conducted by Daoust, Vallerand and Blais (1988); Vallerand (1991); Vallerand and Bissonnette (1992) showed that students who had more self-determined forms of motivation for doing school work were more likely to stay in school than students who had less self-determined motivation. Similarly, Grolnick, Ryan, and Deci (1991), Prntrich and DeGroot (1990) reported the link between intrinsic motivation and self determined forms of extrinsic motivation to positive academic performance. Moreover, research investigations that focused on the relation of autonomous motivation to educational outcomes (Grolnick and Ryan, 1987) found that elementary school students who reported more self-determined motivation for doing school work, in general, evidenced greater conceptual learning than those students who reported less self-determined motivation did.

Other studies conducted on affective outcomes as predicted by motivational variables (Vallerand et al., 1993) found that students who had greater motivation showed more positive emotions in the class room, more enjoyment of academic work and, more satisfaction with school than those students whose motivational profile was less self-determined. Ryan, Connell and Deci (1985) also found positive relation between self-determined regulatory styles and enjoyment of school. They also found the more controlling regulatory styles were associated with greater anxiety and poorer coping with failure.

It appears from these and other studies (e.g. Fortier et al., (1995) that to improve school performance is to increase students' autonomous motivation. This could be done by increasing students' academic competence with encouragement and positive feedback, and their academic self-determination by providing choices during learning activities.

Self-determined motivation (Deci et al., 1991), when applied to the realm of education, is concerned primarily with promoting in students an interest in learning, a valuing of education, and a confidence in their own capacities and attributes.

Table 1: Number of Students Detained In Grade 9 in THCSS in 1998/1999 A.Y

Sex	Enrolled	Dropout	%	Set for exam	Detained	%
Male	859	78	9.08	781	156	19.97
Female	1003	72	7.17	931	345	37.05
Total	1862	150	8.05	1712	501	29.26

Source: Annual statistical report of the Office of the Assistant Director, 1991 EC.

Schools represent a primary socializing effect that has enormous impact on the course of students' lives and, in turn, on society. School systems may succeed in promoting in students a genuine enthusiasm

for learning and accomplishment and a sense of involvement in the educational enterprise. This, however, seems not evident in our school systems, where a large failure rate prevails. Recently, the annual statistical report obtained from the office the assistant director of Tana Haik comprehensive secondary school revealed that out of 1712 grade nine students 501 of them were detained because of poor academic performance. This calls for a close investigation of the problem.

A number of factors could be ascribed to a drop in students' academic performance. It seems worthwhile to investigate effects of academic competence, self-determination and motivation on students academic performance. For this purpose the following leading research questions were formulated:

- Did academic competence, self-determination and motivation predict strongly and significantly students' school performance?
- Did male and female students differ in their academic motivation and school performance?
- Was there a significant relationship between academic competence, self-determination, academic motivation and school performance?

Thus, the purposes of the study included the following:

- Investigate the effect of perceived academic competence, self-determination and motivation on students' school performance;
- Evaluate whether or not male and female students differ in their academic motivation and school performance and;

- Examine whether there exists a significant relationship between academic competence, self-determination, motivation and school performance.

Although schools are presumed to be places where student behavioral changes are expected, there are many factors that interfere with such processes. One of the influential factors is motivation. It determines the direction and persistence of one's behavior in academic settings.

Recently, the study of motivation in school settings has been profoundly influenced by theories of achievement motivation. This is not surprising as schools are mainly concerned with achievement, because they are concerned with acquiring and demonstrating competence, with doing things that require skill and which enhance ability (Maehr, 1984).

The study of academic motivation of students is now becoming a serious issue in schools. It is important to examine and follow up the status of students' motivation and what effort they exert in the school tasks in order to succeed. This study could be significant in the following ways:

- It may help teachers and school principals to motivate students to develop positive attitudes toward school learning, appreciate the value of academic activities and make sure that they can achieve success on these activities with reasonable effort; to promote students' self confidence in their competence and increase personal control over task outcomes; to provide students with successful experiences and focus on the influence of effort and the use of learning strategies on task outcomes;

- It could help teachers, principals and parents and concerned authorities to encourage and help students to see that the knowledge and skills acquired in academic learning will prepare them for life and open up opportunities for future success in their careers. It helps teachers in how to use constant evaluation of their students' feelings in the classroom while the lesson is in progress to motivate them learn; finally, to emphasize students' intrinsic motivation by planning activities that attract students' interest in the content of the lesson so that they can enjoy the activity.

Although the present findings fully provided support for previous research (Fortier et al., 1995) certain limitations should be acknowledged. First the measures of academic competence and self-determination were assessed with only four items each. It would have been preferable, however, to use more items to assess these two constructs. Second, the present study did not use an experimental or longitudinal design; rather it employed a field research. Finally, this study mainly focused on a limited number of factors. Considering the complex nature of school performance, it should be acknowledged that many other variables could likely influence this important educational outcome. Thus it would have been essential to incorporate some of the variables in this study in order to better predict academic performance.

Definition of Terms

Performance: - Scores students earned in the final examination. This can be influenced by factors like academic competence self-determination and motivation.

Academic Competence: - students' sense of being effective in the academic domain.

Academic Self-determination: - students' capacity to choose among several courses of action in the school.

Motivation: - self-determined forms of motivation (intrinsic motivation and identified regulation) lead to induce positive outcomes more readily than non self-determined forms of motivation (amotivation found to induce negative outcomes (Deci et al., 1991).

Review of Related Literature

The Need for Performance Assessment

Assessment of students' performance is an essential tool of the educator. One of the most common and important uses of assessing performance is to follow up students' progress (Linduall, 1967). With regard to assessment of students' performance, Bloom et al. (1971) contended that the teacher's major business was to produce change in students, and he could determine his degree of success only by making regular assessments of what his students managed to learn. According to Robert Wood, (1987), the purpose of assessing students' performance was primarily to grade and classify students which the school system regarded as the important tasks and goals of the educational process. Similarly Oliva and Pawlas (1997) maintained that the purpose of assessing student's performance was to determine whether students met the prespecified objectives.

Cole and Chan (1994) agreed that the need for performance assessment was to make instructional, educational outcomes and teaching processes effective. Assessing students performance during an instructional programme provides useful information about students' learning that allows teachers to adjust instruction to the needs of students; to check periodically how much students have learned, monitor progress and diagnose learning difficulties. For instance, the teacher may wish to measure the learning outcomes of a group of students who have completed a particular programme of

study. These measures of learning outcomes provide information on the amount of learning the students have attained during the programme and allow teachers whether the instruction has been effective. Performance evaluations are common in school systems and may take the form of grades, verbal feed back, or written appraisals (Deci et al., 1991).

Over the past years, much research was carried out on variables that predict academic performance. These researches tried to discover factors related to academic performance and examined a number of variables such as self-efficacy (Bandura, 1986; Schunk, 1987; Yalew, 1996; 1997), student attribution (Tamire, 1998); and academic goal orientation (Schraw, et al., 1995).

Other studies were conducted on the relationship between academic motivation and school performance (Grolnick, Ryan, and Deci, 1991; Grolnick and Ryan, 1987; Fortier et al., 1995; Vallerand and Bissonnette, 1992). The studies revealed that academic motivation positively influenced academic performance.

A research conducted on specific subjects, Gottfred (1985, 1990) as cited by Deci et al., (1991) measured intrinsic motivation on subjects such as mathematics and reading for junior high school students. She reported significant positive relationship between motivation and achievement (as measured by standardized achievement tests and by teachers' ratings of achievement).

Local research conducted in high school students on gender differences on performance (Yalew, 1996, 1997) indicated that male students outperformed their female counterparts. A similar finding also reported by Atsede, (1991) indicated that females performed lower in science than males did.

Fortier et al. (1995); Maehr, (1984); Borich and Tombari (1995) defined academic competence as a sense of being effective in academic domains and students' knowledge of how to achieve certain goals and skills for doing so. Competence involved understanding how to attain various external and internal outcomes and being efficacious in performing the requisite actions (Deci et al., 1991).

Academic competence refers to students' personal views about their own capabilities in academic domains. It is influenced by their own perceptions of how their capabilities are judged by themselves, which is closely related to actual performance (Cole and Chan, 1994:349). The higher the students' achievement, the more likely the students are to evaluate themselves as being competent. Academic competence also influences the way students feel about their likelihood of success in a school task so that those with high levels of academic competence are likely to be more confident of success and therefore, are more willing to apply themselves. It is also true that the higher the students' academic competence, the more likely it is that they will prefer challenge, be curious and engage in independent mastery attempts. That is, they are more likely to be motivated.

Bandura (1977, 1982) as cited in Yalew (1996) discussed that the sense of competence people displayed about themselves determined performance out comes. The expenditure of effort, persistence on the activity, the attempt to perform the task and achievement expectations were predictable from one's feeling of competence.

Research findings on interpersonal behaviors also represent important determinants of motivation. Grolnick, Ryan, and Deci, (1991) showed that informational behaviors, those providing feedback of competence and a clear rationale for doing an activity, fostered self-determined forms of motivation and undermined amotivation.

According to Deci et al., (1991); Vallerand and Reid, (1984) competence (e. g., optimal challenges and performance feedback) facilitated motivation. For example, congratulating students for having done well at self-initiated educational activities may promote feelings of competence and motivation, whereas praising them for doing what they have been told to do may make them feel controlled, which in turn, would reduce motivation and strengthen amotivation.

Regarding students' perceptions of competence, studies demonstrated that dropout students had lower perception of school competence (Vallerand Fortier and Guay, 1997). From a field research conducted on other life domains (e.g. sport) Pelletier et al., (1995), found that the more athletes perceived themselves as competent and self determined, the more they exhibited self-determined forms of motivation toward sport. Similarly, Vallerand and Ried (1984), showed that feeling of competence and self-determination represented important determinants of ones' participation in various activities thought to be motivating.

Regarding gender differences in academic competence, Vallerand and Bissonnette (1992) indicated that female students perceived themselves as more academically competent than male students. On the other hand local studies (Yalew, 1996; 1997) revealed that female students were less competent than their male counterparts.

Deci and Ryan (1985) as cited in Fortier et al. (1995:262) defined academic self-determination as the capacity to choose among several courses of action. It is an attitude of learners' freedom to accomplish worthwhile goal that enhances student performance. Grolnick and Ryan (1987) reported that if students were given the freedom to make their own choices in the school, their academic motivation would be maintained, but if they felt constrained in school their academic motivation would diminish. Glynn (1984) contended that schools that

provided learners with a minimum control over learning interactions were excessively dependent on external control by teachers.

Gronlick and Ryan (1987) indicated that when children were more self determined, the quality of learning enhanced with better integrated and maintained learning as the outcome. More academically self-determined learners were expected to find the learning materials more interesting and experience less pressure in the learning session than their less self-determined counterparts. They further discussed that in order to develop students' personality in a direction of greater motivation and independence in the process of learning and achievement autonomy was vital. Emphasis on controlling behavior, external pressure and rewards undermined the sense of students' autonomy. The experience of an autonomy supportive climate encouraged students to initiate their learning behavior and to become active participants in the classroom. Students experiencing the classroom as more autonomy supportive would be more intrinsically motivated to school than those experiencing the classroom environment as more controlling.

A similar effect has been found for autonomy supportive behaviors and interpersonal behaviors providing opportunities for choice where the individual's sense of autonomy is enhanced (Blais et al., 1990). The importance of autonomy-driven process as opposed to controlling' and amotivated process in the development and maintenance of the quality of couples' relationships is emphasized.

According to Deci and Ryan, (1987) as cited by Vallerand, Fortier and Guay (1997), providing students with autonomy support implies allowing them to make certain choices and decisions about their schooling. Such a practice increases students' self-determined motivation. Conversely, controlling students' behaviors signifies telling them what to do and how to do it. This practice undermines students' self-determined motivation. The findings of Vallerand, Fortier and

Guay (1997) also revealed the use of harsh and controlling teaching and parental techniques was positively associated with school dropout.

Motivation in general refers to the intensity and direction of behavior. The direction of behavior indicates whether an individual approaches or avoids a particular situation, and the intensity of behavior relates to the degree of effort put forth to accomplish the behavior. Thus, motivation can affect the selection, intensity, and persistence of an individual's behavior (Silva and Weinberg, 1984: 171).

Similarly, Sprinthall et al. (1994) said that motivational or non-intellectual factors were critical in determining the achievement of students. By emphasizing the importance of motivation they clearly confirmed that even if we were to develop an absolutely reliable, valid, and culture-fair measure of intelligence, no totally accurate prediction of academic achievement could be made without consideration of the motivational variable. For instance, it was confirmed that motivation played a crucial role in academic success.

According to Deci et al., (1991) autonomous forms of motivation lead to positive outcomes, whereas less autonomous motivation (e.g. amotivation) brings about negative consequences. Similarly, Grolnick, Ryan and Deci, (1991) findings revealed a positive correlation between autonomous academic motivation and academic performance.

Another study conducted by Fortier et al., (1995) found that autonomous students were less likely to drop in their academic performance. Other researchers (Vallerand and Bissonnette, 1992; Vallerand et al., 1995) reported similar findings that the more students were motivated toward education in autonomous fashion, the higher was their school performance. Moreover, their findings showed that students who felt competent and self-determined in the

school context developed an autonomous motivation profile toward education, which in turn would lead them to obtain higher school grades. Similarly, Pokay and Blumefeld, (1990) showed that academic motivation predicted academic achievement over and above the effects of ability level or prior performance. Laboratory research conducted by Elliot and Dweck, (1988); Butler, (1987); Butler and Kedar, (1990) supported the causal influence of motivation on performance.

Self-determined forms of motivation (Deci et al.,1991), lead to positive outcomes more readily than non self-determined forms of motivation (amotivation),which have been found to induce negative outcomes. These findings have been replicated with several educational outcomes, such as satisfaction with one's academic life, school performance, and intentions of continuing one's schooling (Fortier Vallerand and Guay, 1995; Grolnick and Ryan, 1987; Vallerand and Bissonnette, 1992; Vallerand et al., 1993).

A total of 271 Tana Haik comprehensive Secondary grade 9 students (128 males and 143 females) chosen randomly from all sections were the subjects of the study. Although the questionnaires were administered to 310 students, 39 students did not fill the questionnaire properly and they were excluded from the study.

Questionnaires were used as major tools for data collection process. A 5- point Likert type scale questionnaire was adapted from Vallerand et al. (1992-93) and an Academic Motivation Scale that assessed students' academic competence, self-determination and autonomous academic motivation. Rosters of students' academic performance were another source of data. Students' academic performance in four subjects namely: English, mathematics, Geography and Biology were collected from respective subject teachers.

Academic performance is the result of a complex interplay of a number of factors. Of these, ability and motivation are inseparable

partners in the pursuit of academic success. (Cohen, Swerdlik and Phillips, (1996). Achievement tests are designed to measure the degree of learning that has taken place as a result of exposure to a relatively defined learning experience. These tests assist school personnel in making decisions concerning a student's advancement to higher levels and the grouping of students for instructional purposes. Academic performance, therefore, on a school achievement test is not entirely dependent on school achievement; rather it may be affected by factors external to the classroom.

All the variables that were expected to measure the independent variables were included in one questionnaire. Accordingly, the variables treated in this study were as follows.

Academic Competence and self-determination as two variables were measured with four question items each. The items required respondents to report their academic competence in school tasks and self- determination in general. The items were scored on a 5-point scale ranging from not at all in agreement (1) to completely in agreement (5) for positively worded items and completely agree (1) to not at all in agreement (5) when the items were phrased negatively

Another variable was motivation. A sub scale that contained four question items for each variable was adopted. A total of 28 items were used to measure academic motivation. These scales had items that enabled students disclose the possible reasons why they went to school. The items were scored on a 5-point scale. To determine students' autonomous academic motivation, a composite score of four separate autonomy indices were used. That was the specific scores of the four autonomous indexes namely: intrinsic motivation to know, to accomplish, to stimulate; identified regulation, external regulation and amotivation were summed up. Weights were assigned for each index in relation to its respective position on the autonomy continuum. The adopted items of both intrinsic and extrinsic

instruments had a standardized cronbach alpha of 0.86. (Fortier et al., 1995; Vallerand et al., 1993).

Before the questionnaire was administered to the sample respondents the researcher first explained the purpose of the questionnaire. He also provided instructions on how to fill in the questionnaire and gave illustrations.

Moreover, students were asked to write their roll number on the questionnaire in order for the researcher to get access to their scores of school performance.

Following the explanation and instructions the questionnaire was distributed with close supervision of the researcher and the homeroom teacher.

After the data were collected, different statistical tools were employed for analysis.

- Descriptive statistics like means (X) and standard deviations (SD) were calculated for general discussions and comparison purposes;

- Multiple regression was also utilized to see whether the scores of the independent variables predicted strongly and significantly students' school performance. To do this, the appropriate model was a structural motivational model of school performance. The model was followed in the same way as Fortier, Vallerand and Guay (1995) used. They proved the model's appropriateness in investigating such types of problem. They also based their model on theoretical, empirical and statistical framework.;

- Pearson correlation coefficient was used to inspect whether there existed relationships between the variables dealt with; and

- T- test was also used to compare the mean scores of male and female students and the obtained correlation values between variables. The level of significance was set at 0.05.

Results

The means, standard deviations and correlation for academic competence, self-determination, motivation and school performance were computed and the result are presented below

Table 1: Means, Standard Deviations and Interrelationship of Variables

			Correlation coefficients				
Variables	Mean	SD	Sex	ACP	ASD	AMT	PER
ACP	13.409	3.1167	0.029	1.00			
ASD	15.506	3.206	0.033	0.242*	1.00		
AMT	15.552	10.685	0.039	0.289*	0.424*	1.00	
PER	7.007	2.041	0.133*	0.202*	0.018	0.232*	1.00

* (N= 271) (Sex codes were 0 = Female, 1 = Male) Significant at P = 0.05

Note:
ACP = academic competence
ASD = academic self- determination
AMT = academic motivation
PER = performance

As shown in Table 1, there was no statistically significant relationship between sex and academic competence (r = 0.029), sex and self-determination (r=0.033) and sex and academic motivation (r = 0.039); except sex and performance which was found to be statistically significant (r= 0.133, P < 0.05). Similarly academic competence had significant relationship with school performance (r= 0.202, P<0.05). Students with higher academic competence were more likely to perform higher in school tasks than those with low competence. Academic motivation also had statistically significant association with performance (r=0.232, p<0.05). On the other hand, students'

academic self-determination did not correlate significantly with their performance (r= 0.0181, p <0.05).

It was also found that academic competence had significant relationship with academic self-determination (r= 0.242, P<0.05). Moreover, academic motivation had statistically significant relationship with academic competence and self-determination, (r=0.289 and r = 0.424, respectively). That is, students who perceived themselves as academically competent and self-determined exhibited higher academic motivation than students who perceived themselves as less competent and self-determined. As indicated in the table there was statistically strong significant association between academic self-determination and motivation than there was between academic competence. Students who were more self-determined in schools were found to be academically more motivated than students who were less self-determined, competent and less motivated ones.

The other intent of the study was to compare the mean scores of male and female students among all the variables treated. To attain this end, t-test was computed and results were presented in Table 2.

Table 2: Sex Difference in Mean Scores on Variables

	Male (n=128)		Female (n=143)			
Variables	M	SD	M	SD	T-test	P-value
ACP	13.508	3.339	13.322	3.013	0.482	p>0.05
ASD	15.617	3.150	15.406	3.264	0.542	p>0.05
AMT	15.976	10.516	15.173	13.337	0.618	p>0.05
PER	7.293	2.314	6.752	1.731	2.194	p<0.05

*df = 269

As indicted in Table 2, male students scored relatively higher means than female students in all the variables compared. But t- values revealed no significant differences among the variables treated,

except performance, which was found to be significant in favor of males.

The major purpose of the study was to investigate whether academic motivation, competence and self-determination predicted significantly students' school performance or not. Table 3 indicates the composite contributions of these variables to performance.

Table 3: Regression Statistics of ACP, ASD, and AMT on School Performance

Variables	R^2	Coefficients	t-statistic	P-value
ACP		0.102	2.571	0.01
ASD	0.087	-0.083	-1.971	0.04
AMT		0.0467	3.647	0.0003

The regression analysis results indicated that there was significant contribution of academic motivation, competence and self-determination to performance (R^2 = 0.087, F= 8.510, p <0.05). But academic self-determination's contribution was found to be negative. That is, the more self-determined the students were the lower their performance was.

Further more, the direct effects of the variable on performance were determined using path coefficients. The effects on performance of academic competence (β =0.159, t = 2.571, p < 0.01), and academic motivation (β = 0.244, t = 3.647, P - <0.0003), were statistically significant. Interestingly self-determination was found to be a strong predictor of academic motivation (β = 0.384, t=6.749, p <0.0000). This implies that the more students were self-determined in school tasks, the more academically motivated they would be. Besides, academic competence was also a statistically significant predictor of academic motivation (β = 0.137, t = 3.547, P<0.00046).

The independent contribution of academic motivation to the total variance of performance was found to be 5.67%, which is 64% of the total R^2, which was 0.087. This means the composite contribution of academic motivation, competence and self-determination to the variance of performance was 8.70%. Of this, the sole contribution of academic motivation was 5.67% and the contribution of competence to the total variance of performance was found to be 3.21%, which was 36% of the total R^2. But the contribution of self-determination was negligible which approached to zero.

Discussion

The main concern of this study was to investigate the effects of academic competence, self-determination and motivation on students' school performance; to compare the relationship between academic competence, self-determination, motivation and school performance, and to examine sex differences in the variables treated in the study.

As could be seen from Table 1 the correctional analyses indicated that there were no significant relationships between sex, academic competence, self-determination and motivation. The only significant correlation found was between sex and performance.

Concerning the variables both academic competence and motivation had positive relationships to performance. This shows that those students who scored high in these variables achieved higher scores on their performance than those scored low. The correlation between academic self-determination and performance was not significant.

This finding may probably indicate that students carry out a school task in classroom better when they are controlled by their teachers than when they are allowed to control themselves. This finding seems to be true in our culture; in other words, students need to be

controlled by teachers in the school compound to carry out school tasks effectively. The more students are controlled in their tasks the more they would persist in doing what they are assigned to do. On the other hand this finding is contrary to the results reported by Gronlick and Ryan (1986), Fortier et al. al (1995) and Maehr (1984) who argued that students should develop some sort of independence for their learning. Interestingly, however academic self-determination, which had low and insignificant relationship with performance, had strong and positive relation to academic motivation followed by academic competence. This result was consistent with the results of Fortier, et al. (1995) who stated that the experience of academic self determination was conducive to academic motivation; Gronlick and Ryan (1986) who argued that autonomy was essential for self motivation; and Maehr (1984) who stated that choice and freedom were significant in determining continuing motivation; and finally Cole and Chan (1994) who maintained that competence was vital to motivation.

The major purpose of this study was to investigate the effects of academic competence, self-determination and motivation on school performance. To do this, multiple regression analysis was employed. The path coefficients displayed that except academic self-determination, which had negative insignificant effect, the other two variables had strong effects, with academic motivation being the strongest predictor (β = 0.244), followed by academic competence. This result is in agreement with Fortier et al., 1995; Deci et al., 1991; Vallerand and Reid 1984) who reported that the more students were motivated the higher their school performance would be. However, the interesting result was that the direct effect of self-determination was found to be strong (β = 0.384), followed by academic competence (β =0.137) on academic motivation.

This finding depicts that as students become more and more self-determined, or have several choices or autonomy to do their tasks,

their motivation increases highly. Therefore academic self-determination was found to be predictor of academic motivation more than performance.

Finally the independent contribution of the variables on performance was assessed. The independent contribution of academic motivation on performance exceeded the other two variables, which was 5.67 % of the total variance, and the next was academic competence, which accounted for 3.21% of performance variance, of the total 8.70% composite contribution.

The other purpose of the study was to compare the mean scores of the two sexes. T- statistics revealed that there were no significant differences between the variables. Performance was found to be significant in favor of males. For this Gilligan (1982) and Landrine (1992) as cited by Urdent and Mahear (1995) suggested that females were more concerned with maintaining social relationships and social equality than males, who placed greater value on independence, achievement and competition. Similarly in women achievement was considered aggressive and unlady like, so many bright women developed a motive to avoid success. They feared social rejection more than they feared achievement. Yalew (1997:42-43) reported that there was no significant relationship between girls perceived importance and physics performance. Maccoby and Jacklinn, (1974) as cited by Sprinthall et al., (1994) speculated that academically, females definitely outperformed males, especially in the elementary school grades. By the time they got to high school and college, however, the males caught up, and in the post educational world the males moved ahead of the females in virtually every area - arts, sciences, corporate life, and professions. They also agreed that this phenomenon was cultural and not genetic. Men were expected to achieve more; they were given more opportunities to achieve and were rewarded more, for their achievements.

Deci, (1975) as indicated by Vallerand and Reid (198) maintained that boys were encouraged to be more independent and achievement oriented while girls were encouraged to be more dependent and interpersonal sensitive.

Summary and Conclusions

This study was designed to investigate the effects of academic competence, self-determination and motivation on school performance. It aimed at whether these variables had direct impacts on students' performance or not. Moreover, it wanted to find out which variables predicted most students' performance.

Based on the analysis, the following were the results and conclusions:

- As correlation statistics duplicated, there were significant relationships among academic competence, motivation and school performance. But academic self-determination did not correlate with performance. Academic motivation, self- determination and competence were significantly associated with each other; with statistically strong relation between academic self-determination and motivation;

- The regression analysis results indicated that the contributions of academic competence, self-determination and motivation to performance were significant (R^2 = 0.0870). But the contribution of academic self-determination was found to be negative. According to this study the independent contribution of academic motivation to the total R^2 was 64%, followed by academic competence, which was 34% of the total R^2; and

- T-test results revealed that in all the variables treated, male students scored relatively higher means than female students. Furthermore, there were no significant differences between males and females on the variables compared, except performance, which was found to be significant in favor of males.

In light of the findings, the following recommendations could be made.

- Since the result of this study showed that there were relations between academic competence and motivation with school performance, therefore, school principals and teachers could increase students' feelings of competence by rewarding students often with positive feedback. Teachers should respond positively to students' questions with encouragement. Students sought their teachers' help and advice thus the teachers should create conducive environments responsive to students' needs;

- The results indicated that there were associations between academic motivation, self-determination and competence with strong relation between academic self-determination and motivation. Therefore it seems that self-determination has an indirect impact on performance through motivation. Thus, teachers should develop students' motivation in order to maintain self-initiated learning by designing tasks appropriate to the students' level;

- Males outshined females in their performance. This may suggest that school authorities and teachers should provide appropriate counseling interventions for females that would enable them improve their performance and work hard to succeed in academic tasks; and

- Teachers should concentrate on students' motivation by developing the task to attract students' interest in the lesson and by providing positive feedback to them when they participate actively and respond appropriately. Teachers should give special attention to motivation at all stages of learning. They could also conduct constant evaluation of their students' feelings in the classroom while the lesson is in progress.

- For students to be actively engaged in the educational sphere, they should learn to value learning, achievement, and accomplishment even when the learning topics are not interesting.

Acknowledgments

I would like to express my appreciation to Dr. Robert J. Vallerand, University of Quebec, who sent me instruments and several journal articles.

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