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Investigation of Academic and Athletic Motivation on Academic Performance Among University Students

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Abstract—The purpose of this paper is to examine the academic and athletic motivation and identify the factors that determine the academic performance among university students in the Emirates of Dubai. The study examined motivation based on non-traditional measure adopting a scale to measure both academic as well as athletic motivation.

Keywords—academic performance, academic motivation, athletic performance, university students, business management, academic achievement, career motivation, sports motivation

I. INTRODUCTION

A number of research studies have been undertaken to predict the academic performance of students. During the last decade some research has also been carried out on the performance of student athlete. These studies assume importance because they have an important impact and influence on the academic performance of students. Universities and colleges today have a number of students from countries all over the world. These students come with diverse cultural background and societal traits. It is therefore important to identify the factors that motivate the students to improve their academic performance and also ascertain the reasons for athletic motivation. This assumes importance because Sports Administrators at universities and colleges are faced with the difficulty of encouraging students to participate in sports, in spite of the benefits and scholarships that have been provided. Over a period of time, educators and administrators have taken up the challenge of improving the academic performance of students. However, there is a common misconception that only academic performance matters. Consequently, students who excel in academics tend to give a low priority to athletic performance.

The important research questions are:

- (i) Is there a relationship between academic performance and athletic performance?
- (ii) What are the factors that motivate students to improve their academic performance?

(iii) Are the factors that determine athletic performance different?

(iv) Is there gender difference in factors that motivate students to improve academic performance and athletic performance?

(v) What are the cultural implications? In other words, does culture play a role in motivating academic and athletic performance?

A majority of studies that have been conducted on the motivational factors that affects academic performance are conducted in the western countries and their focus is mainly on grade school or secondary school students. However, there is no such study on the Arab World, particularly the UAE (United Arab Emirates). This study thus, fills the gap in previous literature. It also extends the analysis by including the non-cognitive variables previously used by some researchers.

In this study, a humbly attempt is made to examine the above mentioned research questions. The paper is organized as follows: Section 1 introduction, followed by Section 2 review of literature, Section 3 is the methodology for the data collection and an explanation of variables used in the study. Section 4 contains the findings and Section 5 offers concluding remarks and possible implications.

II. REVIEW OF LITERATURE

A number of early studies examined the importance of traditional variables in predicting academic performance such as high school GPA, SAT score, high school class rank and GMAT [1], [3], [9], [10], [14], [15], and [16]. Similarly, there are a number of up-to-date research that have produced evidence of an association between personality, conscientiousness, openness to experience, emotional stability, agreeableness and academic success [6], [10], [12], and [15]. Likewise, few researchers attempted to study the relationship between motivation (academic motivation, student athletic motivation, career athletic motivation, studytime) and academic performance [4], and [7]. In addition to this relationship, some researchers have explored

the impact of demographic variables such as socio-economic status, gender, parent's education qualification and ethnicity in predicting academic performance [2], [4], [5], [14], and [15].

However, few studies have investigated academic and athletic motivation as nontraditional variables and their relevance as factors in predicting academic performance [3] and limited number of studies considered sports motivation as a significant predictor of academic performance (Snyder (1996), cited in [4]). Gayles [3] considered academic motivation, athletic motivation and career motivation as factors in predicting academic performance among university athlete students. The result showed that academic motivation was a significant factor. Interestingly, female athletes had a higher academic motivation scores than their career and athletic motivation scores. The result further supports existing literature where female athletes can perform better academically than their male counterparts and suggested a further research pertaining to motivation and its impact or relationship to academic achievement needs to be conducted to confirm the findings.

Several studies were conducted to determine the performance of female and male students and relate it to their sports and academic performance [5], [8], and [13]. The results of research undertaken by these researchers showed conflicting results. Their findings showed that female athletes perform better academically than male. The study of Chee, Pino and Smith [5], suggested that the factors associated with GPA differ by gender. Whereas, Peiperl, and Travelyan [8] found that gender is not significantly correlated with students' performance and that there was no indication that either men or women perform better in the MBA program.

It is interesting to note that the study of Chee, Pino and Smith [5] identified race as an important factor that affects academic ethics as well as academic achievement for women. Moreover, nonwhite women are more likely to have academic ethics compared to their white counterparts, but on the contrary, white women had higher GPAs than nonwhite women. In the case of men, this research showed that race does not affect the academic achievement.

Numerous studies attempted to analyze the influence of family variables (educational level of parents, socio-economic status, and family structure) on academic performance, though the results were inconclusive, there are conflicting results on the effect of socio-economic status of parents on students' academic performance. Some studies showed that socio-economic status is weakly correlated to achievement while recent study done by Casanova, Linares, de la Torre and Carpio [2] showed that socio-demographic variables are better predictors of academic achievement. According to this study, students with normal achievement seem to indicate that the principal predictors of academic achievement were socio-demographic variables.

III. RESEARCH METHODOLOGY

The sample consisted of 217 athletes and non-athletes who were doing courses in business management at the

undergraduate level in universities in Dubai. Demographic as well as other motivation related data was collected through a structured questionnaire. It included a number of demographic variables and also 30 items to examine the extent to which students were motivated toward academic and athletic related tasks. These items were measured using a 6-point Likert-type Scale, ranging from Very Strongly Disagree (1) to Very Strongly Agree (6). An exploratory factor analysis (EFA) and reliability estimates were conducted to confirm the underlying structure and internal consistencies of the items on the scale. Comprehensive Exploratory Factor Analysis (CEFA) was used to conduct the analysis. This statistical program is unique because it produces a measure of model fit, standard errors for rotated factor loadings and factor correlations.

The study was based on a three motivation factor model, an academic motivation (AM), a student athletic motivation (SAM), and career athletic motivation (CAM). Therefore, although we started our study with the initial scale consisting of 30 items to examine the extent to which students were motivated toward academic and athletic related tasks, our idea was to re-classify the items based on specific motivations. On re-classification the scale of AM consisted of 11 items; the scale of SAM consisted of 5 items; and CAM consisted of 5 items. Since the focus of the study was on the influence of motivation to academic performance, we treat the non-cognitive variables such as gender, nationality, socio-economic status, father's education qualification as well as mother's education qualification as controlled variables.

IV. FINDINGS

A. Demographic Results

The respondents were subdivided based on their nationality into several groups as shown in Fig. 1 48% of the respondents were Indians and Pakistani, 20% of the respondents belonged to other Asian nationalities, while 19% are from GCC nations (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE) and other Arab countries, and the American, Australian, Canadian, Russian, Nigerian, Tanzanian etc., are merely 13%. As can be seen from the break-up, a majority of the students are expatriates. Among the 217 respondents, 59% were male while 41% were female.

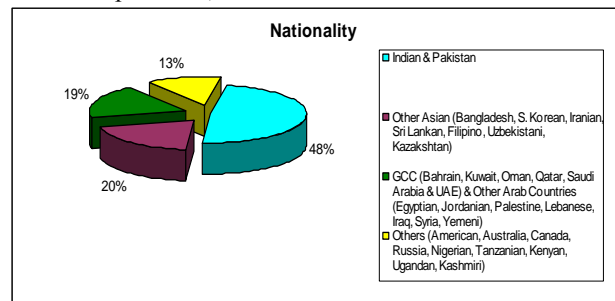


Figure 1. Nationality Subgroups

The frequency distribution of parent's educational qualifications shows that an overwhelming majority of

parents were well educated either graduates or post-graduates.

Approximately 50% of respondent's parents had income of over AED 25,000. The sample consisted of an uniform distribution of parents belonging to different income groups.

B. Reliability and Data Analysis

In adopting the Student Athlete's Motivation towards Sports and Academics Questionnaire (SAMSAQ), we hypothesized that all items may be grouped into three factors, (1) Academic Motivation (AM), (2) Student Athletic Motivation (SAM), and (3) Career Athletic Motivation (CAM). To test the hypothesis, the three factors were examined, by initially using the SPSS for Factor Analysis. We used the Principal Axis Component as the extraction method suppressing a factor loading less than 0.4 (as considered to be small) in order to make an easier scanning of the output. The three factors seen in Appendix 1 explain 47.3% of cumulative variance. We also examined the sampling adequacy using the Kaiser-Meyer-Olkin measure. The sampling showed a high value of 0.82 suggesting a factor analysis is appropriate and it is significant ($p < 0.05$) using the Bartlett's Test of Sphericity.

A reliability analysis Cronbach's alpha was further conducted to determine if all item groupings are acceptable and reliable. Though we intend to adopt the SAMSAQ questionnaire, we drop some of the variables because these variables were not significant for a study undertaken in the UAE because of the cultural and other differences. The first factor (Academic Motivation) has 11 items with a reliability Cronbach's alpha of 0.84, the second factor (Student's Athlete Motivation) has 5 items with a Cronbach' alpha value of 0.70, and the third factor (Career Athletic Motivation) has 6 items with Cronbach' alpha value of a 0.76. The Cronbach's alpha indicator of the three factors suggests that the items have relatively high internal consistency.

The correlation reported in Appendix 2 shows the relationship of the three factors among the controlled variables, such as gender, nationality, educational qualification of parents, family income, and GPA. There is a significant relationship of the qualification of father with the qualification of mother ($r = 0.416$, $p < 0.01$); family income is highly related to father's educational qualification ($r = 0.166$, $p < 0.05$). Interestingly, there exist a significant correlation of the father's qualification with the Career Athletic Motivation and Academic Motivation ($r = -0.153$, $p < 0.05$, $r = -0.158$, $p < 0.05$ respectively). Similarly, there is a significant correlation of the mother's qualification with the Career Athletic Motivation ($r = -0.162$, $p < 0.05$).

We also examined the mean scores and standard deviation of each motivation by gender as shown in Table 1. Though respondents are predominantly male, the average among the three factors between male and female are not much different. Females have higher motivation scores on athletic motivating tasks ($M=3.94$, $SD = 1.33$) compared to males ($MD = 3.15$, $SD = 1.33$). On the contrary, males have a higher Academic Motivation (Mean =4.14, $SD = 1.27$) than females. Among the three factors, students are more

academically motivated than in athletic tasks. Moreover, students whose family income is low are more academically motivated unlike those students whose family income is higher are only moderately academically motivated. By inspection of the means and standard deviations of the gender and the family income, we can conclude that these cannot be significantly different.

TABLE 1. MEAN AND STANDARD DEVIATION FOR MOTIVATION FACTORS BY GENDER, AND SES

Variables	Academic Motivation Factor		Student Athletic Motivation Factor		Career Athletic Motivation Factor	
	Mean	SD	Mean	SD	Mean	SD
Gender						
Male	4.14	1.27	3.15	1.33	3.24	1.28
Female	4.02	1.19	3.94	1.33	3.35	1.21
Family Income						
5 000 - 10 000	4.39	1.18	3.07	1.27	3.35	1.08
10 001 - 15 000	4.16	1.30	2.85	1.21	3.08	1.33
15 001 - 20 000	4.30	1.31	2.99	1.44	3.23	1.41
20 001 - 25 000	3.98	1.31	3.05	1.16	3.21	1.29
25 001 - 30 000	3.98	1.27	4.22	1.26	3.18	1.35
30 001 & above	3.99	1.19	3.87	1.33	3.29	1.17

V. CONCLUSION

The purpose of this study is to adopt the SAMSAQ scale used by Gayles [4] and test it under the peculiar conditions prevailing in the UAE. The result supports the framework for measuring the academic and athletic motivation. The SAMSAQ scale resulted in a good internal consistency when measuring the three motivation factors: (1) Academic Motivation, (2) Student Athlete Motivation, and (3) Career Athletic Motivation. The findings showed important results for all subscales. On an average, male athletes had higher academic motivation scores than any other group. Students whose parents belonged to the higher Socio-economic group had higher athletic motivation.

In our research findings show very little relationship between academic performance and athletic performance because in the UAE students (expatriates) are extremely career oriented. Therefore we concluded that appropriate steps for corrective orientation should be taken. The main emphasis is on the possibility of career prospects and job orientation of academic courses. Students are motivated to improve academic performance when they realize that the academic courses improve their career prospects. Therefore our recommendation is that Universities and colleges should make students aware of the possibility of developing careers in the area of sports and athletics. Are the factors that determine athletic performance different? Yes students who are not academically inclined and have a natural talent and ability to excel in athletics tend to concentrate in athletics.

Our conclusions are consistent with earlier studies [2], [4], [5], [14]. The result is surprising because a majority of students in the UAE being expatriates give a high priority to academic performance and tend to be motivated by the possibility of job-oriented courses. There is also a

misconception that athletic activities are not career-oriented and therefore there is a low motivation for those activities.

VI. IMPLICATIONS

These findings may have important implications for advisors and student counselors. The fact that athletic motivation is low shows the lack of understanding about the career possibilities in athletic areas. The findings of the study confirm the findings of earlier studies [2] that family variables particularly socio-economic status has an important impact on academic motivation of students. Unlike previous research [5] this study shows that Asian students are more academically motivated and male student are marginally more motivated than female students. It is important to recognize the fact that unless students are educated on the career-orientation of sports activities and the fact those students who concentrate on sports activities can also excel academically.

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Appendix 1. Rotated Factor Matrix

Items Questions	1	2	3
I am willing to put in the time to earn excellent grades in my courses, so that I get a good salaried job.	.710		
In order to get a good job, it is important for me to learn what is taught in my courses.	.695		
I get more satisfaction from scoring a "Credit/Distinction" in a course toward my major than in winning a game.	.679		
The most important reason why I am in school is to develop skills for a Job.	.650		
I chose (or will choose) my major because it is something I am interested in as a career.	.648		
I am confident that I can achieve a high grade point this year	.631		
I will be able to use what is taught in my courses in different aspects of my career outside of college.	.589		
The most important reason why I am in school is to earn a degree and get a good job.	.574		
I get more satisfaction from having a good job than in the future than a career in sports.	.544		
It is important to me to learn the skills and strategies taught by my coaches.	.524		
The content of most of my courses is interesting to me.	.437		
During the years I compete in my sport, completing a college degree is not a goal for me.		.692	
I chose to play my sport because it is something that I am interested in as a career.		.648	

It is not worth the effort to earn excellent grades in my courses.		.616	
I am confident that I can earn a college degree.	.470	-.607	
Achieving a high level of performance in my sport is an important goal for me this year.		.568	
My goal is to make it to the professional level or the Olympics in my sport.			.816
I am confident that I can make it to an elite level in my sport (Professional/Olympics).			.788
I have some doubt about my ability to earn high grades in some of my courses.			.542
The amount of work required in my courses interferes with my athletic goals.			.536
I will be able to use the skills I learn in my sport in other areas of my life outside of sports.			.501
I am confident that I can be a star performer on my team this year.			.428

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

Appendix 2. Correlation Matrix of Variables in Regression Model

	AM 1	SAM	CAM	Gender	GPA	Nationality	Qualific. of Mother	Qualific. of Father	Family Income
REGR AM for analysis 1									
REGR SAM for analysis 1	-.041	1							
REGR CAM for analysis 1	.021	.001	1						
Gender	.097	-.077	-.025	1					
GPA	.118	-.035	-.010	.279**	1				
Nationality	-.053	-.143	-.056	-.070	.043	1			
Qualification of Mother	-.124	.079	-.162*	.013	.019	.096	1		
Qualification of Father	-.158*	.029	-.153*	-.018	.085	.225**	.416**	1	
Family Income	-.041	.064	-.097	-.116	-.069	.077	.088	.166*	1

*Correlation is significant at the 0.05 level

**Correlation is significant at the 0.01 level