

What motivates engineering students at the Hashemite University in Jordan to join intercollegiate sports?

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Abstract:

All Sports teams at the Hashemite University in Jordan include several engineering students. Engineering students choose to join official collegiate sports activities despite their demanding schedule because of their full engineering curriculum. This study was carried out on this specific topic which might have a potential effect on engineering education. A survey was designed to investigate and understand the motivation of the engineering students who opt to join university's sports teams. It also explored the obstacles facing other engineering students who want to join such activities. The sample from this group was chosen for this investigation, and the survey was distributed to the students in this sample. The paper at hand reports on the results of this survey and provides suggestions and recommendations.

Key words: Motivation, sports, students, engineering.

Introduction

Engineering education in the Middle East is known to be a very demanding curriculum in comparison to other fields of education. Admission to engineering is extremely competitive and only medicine surpasses engineering when it comes to admission standards. Unlike the US, students can join university medical programs immediately after the completion of high school education. Due to the intensive and demanding nature of their curriculum, engineering students do not have the time to engage in extra curricula activities like varsity sports. In Jordan, universities compete against each other in many popular sports including soccer, football, volleyball, handball, and track and field. Many universities even compete with other universities at the international level.

Surprisingly, at the Hashemite University in Zarqa, Jordan where one of the two authors teaches sports and physical education, all of the official university sports teams include several engineering students. These students have to devote a lot of their time to the activities of these sports including meticulous training and extensive traveling: precious time they actually need elsewhere to fulfill the pressing demands of their engineering courses. On top of that, engineering instructors seldom give athletes any special considerations to accommodate this kind of extracurricular activities. This is a phenomenon worth exploring as all of us know that physical activities tend to improve learning and education.

The Psychology of Motivations

Studying what motivates human beings towards various activities is vital, and is one of the most important and interesting topics in psychology. This includes cultural, social, physical, or educational activities. These motivations vary based on the identity of the individual and his/her interests and desires. Understanding these motivations is very important among psychologists as this understanding can either lead to a continuation or cessation of activities at hand.

Mufti (2006) defines motivations as “internal forces that moves a person to perform effort to achieve a certain goal.” Alawi (1992) adds that the term motivation points to the dynamic relationship between an individual and his environment including the parameters which start a certain behavior and continue it until the achievement of its objective. Hassanein et. al (1992) state the functions of any motivation are represented in liberating the internal potential energy in the individuals first followed by pushing these individuals to respond in certain ways and towards specified directions.

Allawi (1992) demonstrates that the behavior of an individual in general does not emanate from one motivation. Rather, it is a result of interwoven and complicated set of motivations that interact with each other and evolve with the growth of individuals. Allawi (1992) adds that motivation is not a physical object that can be seen by the eye. Instead, it is a set of internal conditions which can be inferred from the behavior of a certain individual and his/her activities. That is, motivation is not the actual behavior that we see in a person, but it's a condition or set of conditions behind this behavior. Those conditions are responsible for invoking, directing, activating, sustaining and concluding the behavior. Quttami (2005) explains that motivations are continuous in nature and they constantly interact with and integrate each other in different ways. The ways in which they manifest themselves are different among different individuals. They also differ in scope effectiveness.

Allawi (1992) emphasizes the importance of motivations in education. He considers it a necessary condition even at the inception of the learning process. Motivation is vital for an individual to continue the learning process and overcoming the challenges and obstacles that will arise while learning according to him. Further, motivation will instigate the individual to learn and be enthusiastic about learning. Motivation will also mitigate and perhaps eliminate negative effects due to fatigue and boredom. Quttami (2005) elaborates on this important concept. He explains that motivation will distract individuals from the thoughts of being tired and bored to the thoughts of happiness and pleasure associated with achieving the goals of learning.

Ratib (2004) pointed out that while low levels of motivation enhances the state of boredom and despair, higher levels of motivations lead to a state of excessive excitement and perhaps anxiety.

Motivations in Sports

The motivations to participate in sports activities are broadly classified into two groups according to Allawi (2002). Direct motivations and indirect motivations. Direct motivations include among others: attaining a sense of satisfaction and pleasure especially if records and outstanding achievements are the results. Indirect motivations include being fit, attaining health lifestyles, enhancing other life activities as a result of being fit, and increasing productivity at work and at home.

The Study at Hand

As stated earlier, it was noted that engineering students at the Hashemite University in Zarqa, Jordan are highly motivated to participate in university sports. The University has thirteen colleges including the college of engineering. Specifically, 20% of the university athletes are engineering students. The university has 115 athletes, and 23 of them are engineering students. Further, this participation by the college of engineering turned out to be the highest among all other thirteen university colleges.

The two authors were motivated to explore this interesting phenomenon. One of the two authors is an engineering educator in the US, and the other is a sports educator in Jordan where the study took place.

The study was in the form of a survey which was designed and carried out to investigate and understand the motivation of the engineering students who opt to join university's sports teams. It also explored the obstacles facing other engineering students who desire to join such activities, but opt or are forced not to do so.

Objectives of the Study

The two broad sets of objectives of this investigation are:

Identifying the motivations and ranking them according to their importance.

Determining the variation in the motivations based on two parameters: gender and type of sports.

Methods

The Sample

Twenty three engineering students who are participating in various sports at the Hashemite University in Jordan made up the sample of this study. Actual collection of data took place during the period of 17-18 February 2009 between 9 AM and 5 PM.

Table 1 shows the distribution of the sample according to gender and type of sports. Gender is either male or female while type of sports is either individual sports like weight lifting and jogging, or group sports like football (soccer), and volleyball.

The study used the means, standard deviation values and the t-test.

Table 1. The Sample of the Study (N=23)

Variable	Value	%
<u>Gender</u>		
Male	16	70%
Female	7	30%
<u>Sports Type</u>		
Individual	15	65%
Group	8	35%

Instrument

A total of 57 motivations were identified and included in the survey. These motivations are classified in eight groups. These are:

1. Fitness and Health Motivations (8 total)
2. Social Motivations (8 total)
3. Psychological Motivations (10 total)
4. Morality motivations (6 total)
5. Sports Inclination Motivations (6 total)
6. Thinking and Mental Motivations (7)
7. Financial Resources (6 total)
8. Distinction in Sports (6)

The survey consisted of questions in the form of tables. The survey asked the engineering students participants to rank the importance of their motivations to join sports at the Hashemite University.

The following scale was used to assess the importance of each motivation:

- Less than 3.0: strongly disagree
- 3.0-3.5: slightly disagree agree
- 3.5-4.0: agree
- 4.0-4.5: slightly agree
- 4.5-5.0: strongly agree

Results

Table 2 shows the mean and standard deviation for each of the investigated 57 motivations. Table 3 shows the mean and standard deviation for each group of motivations. Table 4 shows the mean, standard deviation, and the t-test value for each group of motivations based on Gender. Table 5 shows the mean, standard deviation, and the t-test value for each group of motivations based on Type of Sports.

Table 2. Mean and Standard Deviation for All Motivations in an Ascending Order (N=23)

Motivation	Mean	Std Dev
Entertainment	4.78	0.422
Improving sports skills	4.74	0.449
Practicing sports since early age	4.65	0.647
Desire to win and trophies	4.61	0.656
Love of sports and participating in them	4.57	0.843
Fostering sense of challenges and adventures	4.52	0.730
Developing abilities to act properly in awkward situations	4.52	0.790
Strengthening self esteem and self sustenance	4.52	0.790
Developing skills for being more attentive and alert to more details	4.48	0.790
Increasing the abilities of the body to resist fatigue and increase productivity	4.43	0.662
Own beliefs that physical fitness has positive effects mental fitness	4.39	0.722
Enhancing the abilities to manage my feelings	4.39	0.656
Rejuvenating mental state	4.35	0.885
Developing interests in sports	4.35	0.714
Desire to fill spare time with useful activities	4.35	0.935
Maintaining healthy heart, lungs and other vital organs	4.35	0.885
Reaching the stature of a world class athlete	4.30	0.765
Developing patience, endurance and persistence	4.30	0.876
Attaining an ideal weight and losing weight	4.30	0.822
Gaining new friends and acquaintances	4.26	0.810
Developing positive reflection skills	4.26	0.752
Eliminating anxiety and internal stresses	4.26	0.864
Gaining fitness and flexibility	4.26	0.915
Gaining Emotional balance	4.22	0.600
Relaxation and eliminating excess energy	4.22	0.850
Increasing self confidence	4.22	0.671
Representing the Hashemite University	4.22	0.902
Increasing defense against sicknesses	4.17	0.650
Attaining an attractive appearance without physical deformations	4.17	1.072
Gaining the respect of the others	4.13	1.058
Preferring sports activities over other types of activities	4.09	0.949
Learning more about the sports I am practicing	4.09	0.733
Gaining a muscular body	4.09	0.848

Self inherent talents or sports	4.04	0.825
Improve mental and memorization skills	4.04	0.825
Being a part of a sports family	4.04	0.825
Being a member in a specific team	4.00	1.206
Gaining general physical fitness	4.00	1.087
Attaining leadership skills	3.96	0.928
Participation in various social activities	3.78	1.043
Feeling secure	3.74	1.251
Interacting more closely with famous athletes	3.74	1.287
Improving and sustaining bonds with existing friends	3.74	0.964
Desire to be distinguished among my friends	3.65	1.434
Determination to be at the top of my sport	3.61	1.305
Defeating fears of being sick	3.61	1.076
Attaining a better social stature in the society	3.52	1.473
Becoming famous	3.48	1.310
Increasing chances to get financial aid from the university and government	3.39	1.803
The availability and diversity of sports resources on university campus	3.39	0.988
Abilities to use sports facilities on campus	3.26	1.054
Availability of persons who can help	3.26	1.287
Satisfying someone else who is important to me	3.09	1.593
The university is paying attention to athletes	3.09	1.311
Prestige and show off	2.96	1.461
The existence of a clear plan by the university to promote sports	2.91	1.276
The facilities are close to my residence	2.91	1.311

Table 3. Mean and Standard Deviation for All Groups of Motivations in an Ascending Order

Group of Motivation	Mean	Standard Deviation
Thinking and Mental Motivations	4.72	0.527
Sports Inclination Motivations	4.29	0.458
Fitness and Health Motivations	4.22	0.598
Morality motivations	4.19	0.591
Distinction in Sports	4.12	0.569
Psychological Motivations	4.03	0.563
Social Motivations	3.77	0.802
Financial Resources	3.14	0.983

Table 4. Mean, Standard Deviation, and t-test Values for all Groups of Motivations Based on Gender

Group of Motivation	Gender	N	Mean	Std Dev.	t-test Value	Sig.
Fitness and Health	M	16	4.250	0.663	0.323	0.750
	F	7	4.161	0.455		
Social	M	16	3.688	0.861	-0.704	0.489
	F	7	3.946	0.673		
Psychological	M	16	3.913	0.618	-1.569	0.132
	F	7	4.300	0.289		
Morality	M	16	4.094	0.635	-1.171	0.255
	F	7	4.405	0.439		
Sports Inclination	M	16	4.292	0.493	0.028	0.978
	F	7	4.286	0.405		
Thinking	M	16	4.625	0.597	-1.338	0.195
	F	7	4.934	0.216		
Financial Resources	M	16	3.031	1.101	-0.816	0.424
	F	7	3.381	0.315		
Distinction in Sports	M	16	4.115	0.550	-0.107	0.916
	F	7	4.143	0.656		

Table 5. Mean, Standard Deviation, and t-test Values For all Groups of Motivations Based on Type of Sports

Group of Motivation	Sport Type	N	Mean	Std Dev.	t-test Value	Sig.
Fitness and Health	individual	15	4.375	0.425	1.747	0.095
	group	8	3.938	0.788		
Social	individual	15	3.767	0.825	0.003	0.998
	group	8	3.766	0.814		
Psychological	individual	15	4.147	0.391	1.384	0.181
	group	8	3.813	0.779		

Morality	individual	15	4.100	0.657	-0.982	0.337
	group	8	4.354	0.431		
Sports Inclination	individual	15	4.222	0.444	-0.967	0.344
	group	8	4.417	0.488		
Thinking	individual	15	4.733	0.531	0.156	0.877
	group	8	4.696	0.553		
Financial Resources	individual	15	3.256	0.833	0.819	0.422
	group	8	2.917	1.137		
Distinction in Sports	individual	15	4.089	0.538	-0.388	0.702
	group	8	4.188	0.657		

Discussions of the Results

Table 2 clearly demonstrates that the most important motivation for engineering students to join university collegiate teams is entertainment at a mean value of 4.78 out of 5.00. It is our opinion that this supports our hypothesis that engineering curricula are intensive and engineering subjects are challenging and a result engineering students engage in sports to alleviate pressures associated with being an engineering student. On the other hand, being close to sports facilities was the least important factor on the list of 57 motivations (2.91 mean value out of 5.00).

Table 3 shows that fitness and health motivations, as a group, are at the top of the list at a mean value of 4.72. This was even better than being attracted to sports at a value of 4.29. This illustrates that there is a healthy awareness about the importance of physical fitness among engineering students represented by this sample. The table shows that engineering students do not join sports to gain financial aid.

Table 4 points out that there is no significant variation in the results based on gender. This agrees with other studies done by Taher (2007), and Abu Araiddah et al. (2006). It is worth noting that Gaddomi et al (1999) shows otherwise. Similar to gender considerations, Table 5 shows that there is no significant variation in the results based on the type of sports either.

Conclusions

Engineering students at the Hashemite University in Jordan who opt to participate in collegiate activities find sports entertaining. It seems that they join university teams to alleviate the pressure associated with their demanding engineering education based on the interpretation of this limited study.

Recommendations

Similar studies need to be performed on engineering athletes at other universities in Jordan to see if the results agree with this study at the Hashemite University. If a pattern is established, then certain conclusions can be reached and perhaps physical education and sports participation may need to be included in engineering curriculum to improve engineering education.

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