

*Full Length Research Paper*

## Extracurricular activities and their effect on the student's grade point average: Statistical study

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**Extracurricular activities (ECA) are part of students' everyday life; they play important roles in student's lives. Few studies have addressed the question of how student engagements to ECA affect student's grade point average (GPA). This research was conducted to know whether the students' grade point average in King Abdulaziz University, Faisaliah campus is affected by their participation in the ECA. This study also studied the students' satisfaction on ECA. The study sample includes 239 students chosen via simple random sampling method. The study used inferential statistics to analyze this study design. To achieve the purpose of this study, a questionnaire (comprising 19 questions) was designed. The results showed that participation in ECA affects the students' GPA in a positive way. The study found that those who participated in ECA have higher GPA than those who did not; the study also found that the time spent participating in ECA did not affect the time students usually spend on studying (the result showed there wasn't any relationship between them). Furthermore, the study showed that students, based on faculty, are generally satisfied with the available extracurricular activities in the campus.**

**Key words:** Extracurricular activities, student's GPA, ANOVA, MANOVA, non-parametric tests, Saudi Arabia.

### INTRODUCTION

The primary goals of extracurricular activities (ECA) were to focus on the individual (student) level, institutional level, and broader community level. The development of an individual is the principal goal of extracurricular activities on faculties and in university campuses; the numerous experiences these activities afford positively impact the students' emotional, intellectual, social, and inter-personal development. Through working with others, students can learn to negotiate, communicate, manage conflict and lead. Taking part in these out-of-the-classroom activities helps students to understand the

importance of critical thinking skills, time management, and academic and intellectual competence. Involvement in activities helps students mature socially by providing a setting for student interaction, relationship formation and discussion. Working outside of the classroom with diverse groups of individuals allows students to gain more self-confidence, autonomy, and appreciation for others' differences and similarities.

Many authors have discussed ECA; Massoni (2011) describes the role of ECA and their possible positive effects on students of all kinds ranging from the above-

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average student to the student-on-the-brink of dropping out of school. "ECA are part of students' everyday life; they play important roles in student's lives. ECA have positive effects on students' life by improving behavior, school performance, school completion, individual aspects (prepare successful adults) and social aspects".

Clegg et al. (2009) research has directly addressed the question of what constitutes ECA; the extent to which students should engage in ECA; and how students experience and conceptualize the benefits from such engagements. This research sought to address these questions from a cultural capital approach. This research explores issues of inter-generational capital that might shape both the capacity to participate and how students understand the benefits.

Richard and Aries (1999), conducted a study on the athlete student at division III school on academic performance, campus involvement and growth. Their sample study contains 219 senior students (a board spectrum of student-athletes). The result of their study revealed that athletic participation did not impede academic success, did not prevent involvement in most other ECA or with non-athletic. Also, athletes' personal growth positively correlated with the time spent with teammates in games and practice.

Another study conducted by Silliker and Quirk (1997) on the effect of extracurricular activity participation (EAP) on the academic performance of male and female high school students. This study examined whether EAP enhances the academic performance of high school students. The analysis carried out on the 123 students who played interscholastic soccer revealed that EAP does not affect, and may enhance academic performance (Male athletes showed in-season improvement in academic performance).

Moreover, another research suggests that participation in extracurricular activities may increase students' sense of engagement or attachment to their school, and thereby decrease the likelihood of school failure and drop out (Finn 1993; Lamborn et al., 1992). If participation in extracurricular activities can lead to success in school, then the availability of these activities to students of all backgrounds becomes an important equity issue. This study briefly examines the relationship between extracurricular participation and student engagement in school.

Kuh (1995), studied out-of-class experiences associated with student learning and personal development. This survey of 149 students explored learning from out-of-class college experiences such as leadership, peer interaction, faculty contact, work and travel. It found that many different experiences potentially contribute to valued college outcomes, that sex and ethnicity did not explain differences in students' activities and outcomes, and that institutional type and context influence learning and personal development.

Moreover, there were many studies on ECA in Arabic

regions. For example, Al-Subaie (2005) studied ECA in King Saud University. His study showed that the reality of student participation in student activities at the University of King Saud is weak in general. Also, that the most practice at the university student activities are social activities with mean (8.81), followed in second place with an overall average sports activities (5.84), cultural activities and came in, and ranked last in average (3.50). Additionally, the study test many hypotheses about the ECA in the university.

Oudah (2012), studied the Arabic educational institutions and reported the relationship between students and their source of learning. The study shows that the source of learning was limited to their teachers' curriculum. Hence, curriculum was the only source. A student can only learn by being in a certain place with an assigned teacher at a definite time. However, due to the nature of technical development in life and evolution of communication, knowledge is now available in several ways other than attending classes, and through other people other than their teachers, at different times without limitation in school or university. Learning is now divided into curriculum and extracurricular. ECA must be a free activity chosen individually or by a group without any barrier; freedom of choice of these activities within the standards of the society and the institution must be acknowledged. The students should have the liberty to choose any activity, which may be connected or related to their major/field of study.

In conclusion, Oudah (2012) reported that educational institutions seek to produce students that make up vital pillar of the community within the framework of scientific and stabilized standards to insure the final objectives derived from the philosophy of education in the Arabic Islamic societies. Achieving these objectives was by different ways and methods. One of the fixed objectives was the belief in the importance of extracurricular activities or extra academic activities. ECA can be identified as: free activities chosen by the students, which include several events that cover many aspects of sport, culture, social, and different academic activities.

The main objective of this study is to examine whether ECA has any effects on the GPA of the students in King Abdulaziz University, Faisaliah Campus (Fc), and to also determine the students' satisfaction on the ECAs in the campus. The rest of the article is arranged as follows:

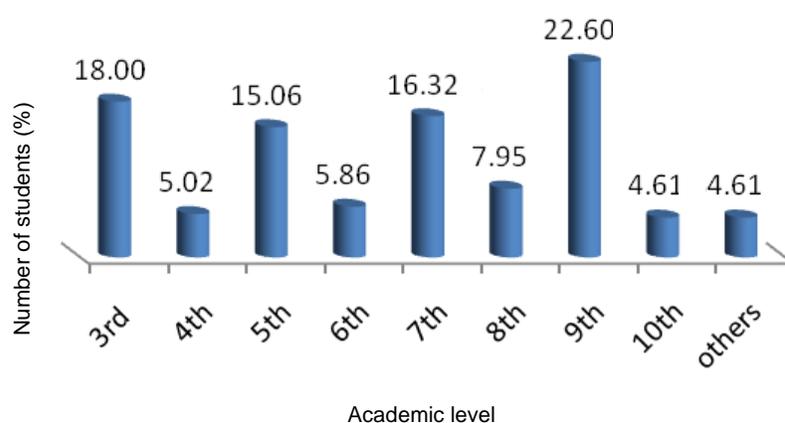
## METHODOLOGY

### Delimitation of the study

This study was conducted at King Abdulaziz University (KAU), Faisaliah campus (Fc), located in Jeddah, Saudi Arabia. KAU consists of two separate campuses; based on Islamic regulations, one for the male students, while the other for the female students. Faisaliah campus is one of the female branches of KAU. Each of these campuses is provided with all the cultural, recreational and

**Table 1.** Distribution of the different types of ECA chosen by students.

| Types of ECA          | No. of participants | Proportion of participants (%) |
|-----------------------|---------------------|--------------------------------|
| Training courses      | 98                  | 32.34                          |
| Lectures and seminars | 58                  | 19.14                          |
| Workshops             | 38                  | 12.54                          |
| Festivals             | 36                  | 11.88                          |
| Competitions          | 32                  | 10.56                          |
| Journeys and visits   | 41                  | 13.53                          |
| Total                 | 303                 | 100                            |

**Figure 1.** Distribution of students according to academic levels.

athletic facilities, in addition to a big library equipped with the most up-to-date technology serving both the students and the teaching staffs. KAU offers educational programs for preparing graduates for jobs and the changing needs of the community.

Faisaliah campus consists of three faculties: Science, Computing and Information Technology and Art and Humanities. ECA in Fc is held by the vice deanship for student activities (VDSA). The VDSA is responsible for the active planning of the student activities; such as becoming more responsible individual in the future and discovering individual's talents; and effectively utilize student's free time (by organizing and monitoring conferences, symposia e.t.c.). One of the VDSA managements is student activity management (SAM). Student activity is an objective to develop and refine personal abilities in order to gain experience and knowledge value in a direct manner; this is done through SAM. Activities hold by SAM in Fc is divided into: Courses, workshops, journeys and visits, lectures and seminars that is, "Say No to Drugs" seminars., general programs as national day celebration and "Made by my Hands" the annual exhibition for small projects. Also, many cultural and sports competitions.

### Sample of the study

In the fall of 2014, Faisaliah campus has a total population of 6389 undergraduate female regular students. The questionnaire of the study was constructed electronically using Google forms; and then distributed electronically by sending the link of the form via emails and social media. Also, some questionnaire was distributed manually by SAM. When the questionnaire was administered, a

sample consisting of 274 students was randomly selected. After discarding the incomplete questionnaire, a total of 239 questionnaires were identified as valid data for statistical purpose. The response rate was 87.22%; actually 109, 55 and 75 students responded from Science, Computing and Information Technology and Art and Humanities faculties, respectively. Also, the distribution of the sample from each faculty was 46, 23 and 31%, respectively. The students' response rates for these faculties are 4.29, 12.81 and 2.20%, respectively. From the selected sample, only 52.72% (students) participated in ECA; 32% are courses participants. This rate is desirable for ECA. Those who participated in lectures and seminars, journeys and visits, and workshops are 19, 13.5 and 12.5%, respectively. Table 1 shows the distribution of the different types of ECA chosen by students. Also, Figure 1 presented the distribution of students according to academic levels.

### Tools of the study

A questionnaire was designed and used as the main tool of this study due to its convenience of use. Specifically, the closed-opened questionnaire (Alnough, 2004) was used; the questionnaire was written in Arabic. The translated version of the questionnaire is presented in the appendix. The questionnaire contained 19 questions divided into three main parts as follows:

1. The essential demographic data for the study, namely: the student's GPA, major (type of faculty), level, study hours (per day) and whether student participate in ECA or not.
2. Questions directed toward the students who participated in ECA

to show the specific types of ECA students like to participate in, the amount of time spent on ECA (per month) and how many times students participated in ECA (per semester).

3. Nine statements (about availability, suitability, quality, variety of ECA) to measure students' satisfactions on the available ECA. A five-point Likert scale was used, ranging from (1) representing Strongly Disagree to (5) which represent Strongly Agree.

The reliability of the data was assessed on the initial sample of 34 questionnaires using Cronbach's alpha on the Likert scale for students' satisfaction statements. The assessment yielded an alpha of 0.72; the instrument was considered to yield reliable data (Carmines and Zeller, 1991).

### The method of data analysis

The inferential statistical method was used in this study. It consists of generalizing from samples to populations, performing estimations and hypothesis tests, and determining the relationship among variables and making predictions (Bluman, 2009). After the questionnaire was administered, the data was collected and analyzed statistically via statistical package for the social sciences (SPSS) software program v.22. This was conducted in the first semester, from 1 October, 2014 to 22 December, 2014, which approximately took two months and a half. The significance level,  $\alpha=0.05$ , was set for all the statistical tests.

The data was conducted using normality and homogeneity test. Then either analysis of variance (ANOVA) or non-parametric tests were used. When such conditions of normality or homogeneity were not valid, a non-parametric test is conducted. For example, Kruskal-Wallis test was used for non-normal or non-homogenous (more than two) independent samples. Also, Mann-Whitney test was used for non-normal two-independent samples. While, Wilcoxon test was used for non-normal two-dependent samples. Furthermore, post-hoc tests as Scheffe was examined. In general, fully balanced ANOVA tests were performed following the general linear models (GLM) procedures (Daniel 2011; Milton and Arnold, 2003; Walpole 1982). In the following section, a null hypothesis is stated to represent the claim of the test. The normality test was conducted followed by the corresponding statistical test. The claims covered the aims of the study. The study has independent and dependent variables as follows:

The independent variables are: Major (type of faculty) and whether student participate in ECA or not. Also, student's level; level refers to the current year and semester; level 3, for example, refers to 2nd year (1st semester) students, level 4 refers to 2nd year (2nd semester) students, and so forth. For this study, 9 levels were included (with the exception of level 1 and 2 as they are preparatory year in other campus).

The dependent variables are: Students' GPA, study hours (per day), the amount of time spent on ECA (per month) and how many times they participated in ECA (per semester).

Accordingly, the mean was taken for all questions and is measured using Likert scale. Then these means were considered as a new dependent variable, which represents the students' satisfaction. Later, a normality test was conducted followed by corresponding test.

## RESULTS AND DISCUSSION

According to the aims of the study, four claims were

stated and tested as follows:

The 1st null hypothesis states: "the students are not satisfied about the available ECA". The answers of 126 students who participated in ECA, which are 52.72% of the total sample were analyzed. The normality test was significant ( $P=0.002$ ) thus the non-parametric test (Abozaid, 2005) Wilcoxon was used.

By setting the hypothetical median  $M$  as 3, Table 2 shows that the number of negative ranks were greater than positive ranks ( $M < \text{Students' Satisfaction}$ ), which means that 106 students out of 126 were satisfied about the ECA held in the campus. The test statistic was also significant ( $P=0.000$ ). This finding supports the rejection of the 1st null hypothesis which means the students are satisfied on ECA. Also, this study tested whether being a student in certain faculty may have an effect on their satisfaction of ECA. Here this study uses the type of faculty as an independent variable. Using the non-parametric test Kruskal-Wallis, the study found that the test was not significant ( $P=0.56$ ) therefore; the ECA are fair for all faculties. The next hypothesis examine whether the GPA is affected by participation on ECA.

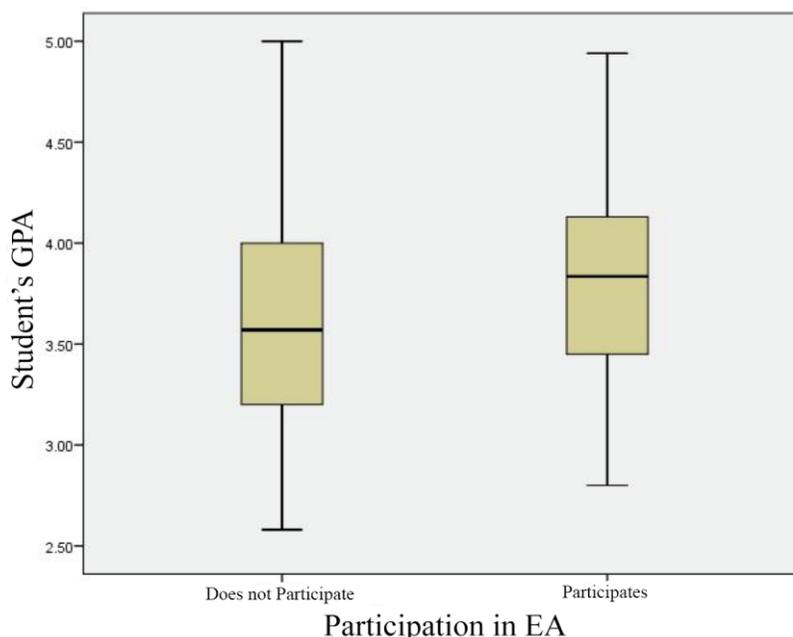
The 2nd claim states: "There is no significant effect of participation in ECA on the student's GPA". This hypothesis tests the difference in the GPA of students who participates in ECA and those who don't. The nonparametric test Mann-Whitney was used. The test statistic was significant ( $P=0.020$ ) and supports the evidence to reject the 2nd null hypothesis. Figure 2 showed that the group of those who don't participate in ECA had wider range in GPA in contrast to the other group of those who participate. Also, the median of the GPA for the group who participate in ECA (3.853) was higher than the median of GPA for the other group (non-participants). Thus, the ECA doesn't prevent students to get high scores. The next hypothesis tested whether student in certain faculty who participated in ECA got more scores. Also, do participants in certain faculty take more hours of activities?

The 3rd null hypothesis states: "There is no significant effect in faculty that student are in on the hours of participation in ECA and their GPA". This hypothesis is meant to study if there was any effect of being a student in a certain faculty on the number of hours spent on participating in ECA and their GPA. To test this hypothesis, a One-Way MANOVA test (Doudéen (2009)) was conducted. The assumption of equality of error variance for each dependent variable (GPA & Participation hours) was met; Levene's test was not significant ( $P=0.507$  &  $0.640$ ). The test statistic of Wilk's Lambda was significant ( $P=0.000$ ), which provides sufficient evidence to reject the 3rd null hypothesis.

Table 3 showed that faculty's effects on participation hours was statistically not significant ( $P=0.619$ ). Whereas, faculty's effect on students' GPA was statistically

**Table 2.** Wilcoxon test for the 1st null hypothesis.

| Variable                   |                | VN  | Mean rank | Sum of ranks |
|----------------------------|----------------|-----|-----------|--------------|
| M – students' satisfaction | Negative ranks | 106 | 65.72     | 6966.50      |
|                            | Positive ranks | 17  | 38.79     | 659.50       |
|                            | Ties           | 3   | -         | -            |
|                            | Total          | 126 | -         | -            |

**Figure 2.** Distribution of students' GPA according to their participation in ECA using boxplot.**Table 3.** Tests of between-subjects effects of the 3rd null hypothesis.

| Source          | Dependent variable  | Type III sum of squares | df  | Mean square | F      | Sig.  |
|-----------------|---------------------|-------------------------|-----|-------------|--------|-------|
| Faculty         | GPA                 | 7.113                   | 2   | 3.556       | 17.620 | 0.000 |
|                 | Hours participation | 10.545                  | 2   | 5.273       | 0.481  | 0.619 |
| Error           | GPA                 | 24.826                  | 123 | 0.202       | -      | -     |
|                 | Hours participation | 1347.587                | 123 | 10.956      | -      | -     |
| Total           | GPA                 | 1844.621                | 126 | -           | -      | -     |
|                 | Hours participation | 3166.190                | 126 | -           | -      | -     |
| Corrected total | GPA                 | 31.939                  | 125 | -           | -      | -     |
|                 | Hours participation | 1358.132                | 125 | -           | -      | -     |

a. R Squared = .223 (Adjusted R Squared = .210); b. R Squared = .008 (Adjusted R Squared = -.008).

significant ( $P=0.000$ ). This implies that there is a significant difference in the students GPA among the three faculties. To compare the mean GPA of each faculty, Scheffe test was used. The test statistic of

students' mean GPA for faculty of computers and information technology and faculty of science was found significant ( $P=0.000$ ). Also, the test statistic of students' mean GPA for faculty of computers and information

**Table 4.** Tests of between-subjects effects of the 4th null hypothesis. Dependent variable: GPA

| Dependent variable: GPA |                         |     |             |           |       |
|-------------------------|-------------------------|-----|-------------|-----------|-------|
| Source                  | Type III sum of squares | df  | Mean square | F         | Sig.  |
| Corrected model         | 13.788                  | 5   | 2.758       | 11.959    | 0.000 |
| Intercept               | 3114.378                | 1   | 3114.378    | 13506.271 | 0.000 |
| College                 | 12.092                  | 2   | 6.046       | 26.219    | 0.000 |
| Participation           | 1.565                   | 1   | 1.565       | 6.788     | 0.010 |
| *College participation  | 0.094                   | 2   | 0.0470      | 2050      | 0.815 |
| Error                   | 53.727                  | 233 | 0.231       | -         | -     |
| Total                   | 3372.958                | 239 | -           | -         | -     |
| Corrected total         | 67.515                  | 238 | -           | -         | -     |

technology and faculty of arts and humanities was found statistically significant ( $P=0.000$ ). However, the test statistic of students' mean GPA faculty of science and faculty of arts and humanities was not statistically significant ( $P=0.205$ ). Thus, student in certain faculty who participated in ECA got more scores. Also, based on faculties there are no differences of participants' hours.

The 4th null hypothesis states: "There is no significant effect of the students' type of faculty and participation in ECA on their GPA". Two-Way ANOVA test was conducted to evaluate the effect on students GPA based on whether they participate in ECA or not and on the students' type of faculty. The interaction between the two independent variables (Participation and Faculty) was statistically not significant ( $P=0.815$ ) as shown in Table 4, which provides sufficient evidence not to reject the 4th null hypothesis.

On the other hand, the test statistic for the type of faculty affects student GPA was significant ( $P=0.000$ ), which supports the result of the 3rd null hypothesis. Also, the test statistic of participation in ECA was also significant ( $P=0.010$ ), as previously proven in the 2nd null hypothesis.

## CONCLUSION

The results showed that the students generally feel satisfied about the available ECA in the campus. This study found that there is an interaction between the students' faculty, and their current level influencing satisfaction about the ECA. Also, the study found that there are significant differences in the GPA of the students who participated in ECA and other non-participants; the median of the GPA of those who participated in ECA is higher than those of the non-participants. This correlates with the result of Silliker and Quirk (1997), Richard and Aries (1999) and Massoni (2011).

The results showed that student's satisfaction on the available ECA does not really differ irrespective of their

faculties. The result also showed that student's willingness to participate in ECA is the main and only purpose for satisfaction; and neither affected by the type of faculty nor by the current level. Also, the hours spent in studying are the same for each group (those who participated in ECA and those who did not); participating in ECA does not really affect the students study hours; ECA does not prevent the student from studying. The study also found that there is no interaction between the students' types of faculty and their participation on ECA on their GPA. Although the GPA of a student may differ by faculty, their participation in ECA will always positively affect GPA as previously reported.

Additionally, the study found that participation hours in ECA would not necessarily increase if the students were satisfied by it; the result showed that two variables were poorly correlated. Finally, administrations of VDSA ought to continually fund extracurricular activities, since it clearly benefits the students' academic achievement. Faculties should encourage students' participation in extracurricular activities. As researchers need to be aware of the effects of extracurricular activities on education. Students all over the world needs awareness about the benefits of ECA. More researches are needed to study other factors which might explain or affect GPA.

## Conflict of interests

The authors have not declared any conflict of interests.

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**APPENDIX**

**Questionnaire**

**This questionnaire is designed to study whether there is effect of extracurricular activities organized by the university (Faisaliaah campus) on the level of student achievement.**

1. Student ID no. (arbitrary).....
2. Specialization .....
3. Academic level.....
4. GPA.....out of 5.
5. How many hours per a day do you spend in studying?
6. Did you participate in any ECA? Yes No

**If your answer was yes kindly answer the following questions. If your answer no kindly go to question no. 19.**

1. Choose the ECAs you had participated?

- a. Training courses
- b. Seminars and lectures
- c. Workshops
- d. Festivals
- e. Competitions
- f. Journeys and visits

2. How many hours you spent in ECA?.....Per month.

3. How many ECA you participate in a semester?

**Choose one answer for each of the following:**

|   |                |       |         |          |                   |
|---|----------------|-------|---------|----------|-------------------|
| 1. Activities available at the university suitable for my tendencies                                    | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 2. Activities available at the university serve my needs  | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 3. Activities available at the university are various   | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 4. Activities are useful  | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 5. I like to participate the same activity more than one time to improve my self                        | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 6. I speak about activities that I participated and I tell colleagues the positives of these activities | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 7. I follow advertising activities  | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 8. The place of activities is appropriate   | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 9. I satisfied on the activities held at the campus   | Strongly agree | agree | neutral | disagree | Strongly disagree |
| 10. Write suggestions to improve the ECA in the university.   | -              | -     | -       | -        | -                 |