

STUDENT SATISFACTION IN QUALITY OF SPORTS FACILITIES IN UNIVERSITY OF KELANIYA

STAT 22542 – Survey Methods & Sampling Techniques

Department of Statistics and Computer Science

University of Kelaniya

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Group -09

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INTRODUCTION

BACKGROUND OF THE STUDY

The topic of our survey project is,” Student satisfaction in quality of sports faculties in university of Kelaniya”.

We conducted the survey on all the 1st year, 2nd year, 3rd year and 4th year students in Commerce and management faculty, Humanities and social science faculty, Medicine faculty, Science faculty and Technology faculty who are doing the sports Badminton, Basketball, Boxing, Carrom, Cricket, Hockey, Karate, Netball, Swimming and Volleyball.

Doing a sport is a wonderful way for university students to improve cardiorespiratory fitness, build strong bones and muscles, control weight, reduce symptoms of anxiety and depression and reduce the risk of developing health conditions such as heart disease, cancer and diabetes. And also, it teaches students the value of teamwork and encourages them to work hard and never give up. Not only that it helps students to develop discipline, dedication and commitment which are essential values for success in life while it opens a way for students to socialize and make new friends. The Department of Physical Education (DPE) provides a wide range of sports for benefit of internal students at the University. They have given facilities to 32 sports for students to select.

As mentioned above, university has provided many facilities for students for sport activities. Hence, we wanted to identify whether students are engaging in sports, whether they have time to manage sports with academic activities and what is their satisfaction about these facilities given by the university to continue their sport activities and to upgrade their sport achievements.

For conduct this survey selecting a sample from the population we utilized the use of stratified sampling technique. Through this technique we divided the population in to subgroups called strata and then selected proportional number of participants from each stratum. Further we subgroup those in gender wise too. To collect data from the selected sample, we utilized a questionnaire in the form of google form, which was an easier way to collect efficient data. Our purpose is to assessing the quality, variety and overall satisfaction with the services provided for sports activities by university and use these analyses to future improvements of sports in our university

RESEARCH PROBLEM

Through the innovation of sports we wanted to know whether the existing facilities are enough for the players to do their sports activities easily and effectively and whether they can achieve success through these edible facilities given by the university itself. The main problem was are they satisfied with those facilities? Knowing that, if the facilities are not sufficient, then giving solutions and gain more sport achievements to our university.

AIMS AND OBJECTIVES

This aims to identify areas for improvement and innovation in sports facilities. This will aid assessing the quality, variety and overall satisfaction with the services provided for sports activities by university. Additionally, this aims to empower the physical and mental wellbeing of university students. Due to a higher fraction of university students suffering from non-infectious diseases and the researchers have concluded that lack of engagement in sports has a direct impact on this issue therefore this study aims to uplift the awareness on the importance of engagement in sports.

METHODOLOGY

Pilot survey

The pilot survey was conducted among 25 respondents selected by convenience sampling method.

The questionnaire consists with two questions, one closed ended question,
“Are you satisfied about the facilities provided by the university for your sports activities?”

The second was an open-ended question,

“What are the reasons for your dissatisfaction? /what makes you salified?”

Through the information gathered from pilot survey the questionnaire was build up by considering the important facts obtained by pilot survey.

Main survey

The population categorized into stratas as follows,

Strata	Strata inside	Population
01. Hockey	Boys	17
	Girls	18
02.Cricket		89
03.Volleyball	Boys	22
	Girls	19
04.Swimming	Boys	17
	Girls	16
05.Badminton	Boys	30
	Girls	36
06.Karate	Boys	25
	Girls	20
07.Carrom		35
08.Boxing		58
09.Netball		28
10.Basketball	Boys	30
	Girls	20

Sample technique used- Stratified sampling

Sample size calculations.

Using proportions to calculate sample size ,

$$n = \frac{\sum_{i=1}^l N_i p_i q_i}{ND + \frac{1}{N} \sum_{i=1}^l N_i \cdot p_i q_i}$$

Hockey	$N_1 = 35$	$q_1 = \frac{417}{452}$	$p_1 = \frac{35}{452}$
Cricket	$N_2 = 89$	$q_2 = \frac{363}{452}$	$p_2 = \frac{89}{452}$
Volleyball	$N_3 = 41$	$q_3 = \frac{411}{452}$	$p_3 = \frac{41}{452}$
Swimming	$N_4 = 33$	$q_4 = \frac{419}{452}$	$p_4 = \frac{33}{452}$
Badminton	$N_5 = 66$	$q_5 = \frac{386}{452}$	$p_5 = \frac{66}{452}$
Karate	$N_6 = 45$	$q_6 = \frac{407}{452}$	$p_6 = \frac{45}{452}$
Carrom	$N_7 = 35$	$q_7 = \frac{417}{452}$	$p_7 = \frac{35}{452}$
Boxing	$N_8 = 58$	$q_8 = \frac{394}{452}$	$p_8 = \frac{58}{452}$
Basketball	$N_9 = 50$	$q_9 = \frac{402}{452}$	$p_9 = \frac{50}{452}$
Netball	$N_{10} = 28$	$q_{10} = \frac{424}{452}$	$p_{10} = \frac{28}{452}$

Figure 1.1

Taking bound of error

$B=0.05$

$$D = \frac{B^2}{4} = \frac{(0.05)^2}{4} = 6.25 \cdot 10^{-4}$$

Sample size of strata

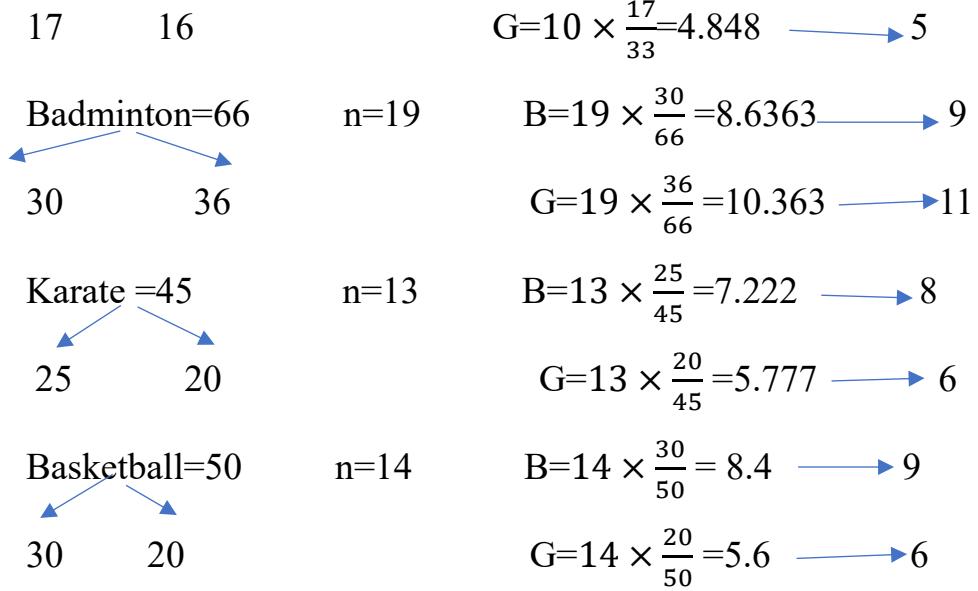
Sport	Sample size
Hockey	$35 \times \frac{417}{452} \times \frac{35}{452} = 9.756 = 10$
Cricket	$89 \times \frac{363}{452} \times \frac{89}{452} = 24.809 = 25$
Volleyball	$41 \times \frac{411}{452} \times \frac{41}{452} = 11.429 = 12$
Swimming	$33 \times \frac{419}{452} \times \frac{33}{452} = 9.199 = 10$
Badminton	$66 \times \frac{386}{452} \times \frac{66}{452} = 18.398 = 19$
Karate	$45 \times \frac{407}{452} \times \frac{45}{452} = 12.544 = 13$
Carrom	$35 \times \frac{417}{452} \times \frac{35}{452} = 9.7566 = 10$
Boxing	$58 \times \frac{394}{452} \times \frac{58}{452} = 16.168 = 17$
Baseball	$50 \times \frac{402}{452} \times \frac{50}{452} = 13.938 = 14$
Netball	$28 \times \frac{424}{452} \times \frac{28}{452} = 7.805 = 8$

Figure 1.2

For further convenience some strata were subdivided further into stratas.

Strata inside

Hockey=35	n=10	B= $10 \times \frac{17}{35} = 4.85$	\longrightarrow	5
17 18		G= $10 \times \frac{18}{35} = 5.1428$	\longrightarrow	6
Volleyball=41	n=12	B= $12 \times \frac{22}{35} = 6.439$	\longrightarrow	7
22 19		G= $12 \times \frac{19}{35} = 5.5609$	\longrightarrow	6
Swimming=33	n=10	B= $10 \times \frac{17}{33} = 5.15$	\longrightarrow	6



QUESTIONNAIRE

the questionnaire was built up considering following factors and facilities as per the pilot survey,

- 1.General information
- 2.Sports equipment
- 3.Cleanliness
- 4.Accessibility
- 5.Different events and programs
- 6.Staff and services
- 7.Suggestions for improvement
- 8.Future intensions

Here it is,

- We, Statistics and computer science students of University of Kelaniya are conducting a survey to assess the level of satisfaction among students regarding the sports facilities available at our university.
- The survey aims to identify the strengths and weaknesses of the current facilities and to explore the possible ways to improve them in the future. the survey consists of 19 questions and will take about 5 minutes to complete.

https://docs.google.com/forms/d/e/1FAIpQLSfx3Qio1U9ayohwg3O9iy5Hkm6kh6QMwVYy-alCVNdgxc0ZQg/viewform?usp=sf_link

01. Your current academic year *

1st year ▾

02. What is your faculty? *

Medicine ▾

03. Gender *

Male ▾

04. Sports that you are engaged in *

- Badminton
- Basketball
- Boxing
- Carrom
- Cricket
- Hockey
- Karate
- Netball
- Swimming
- Volleyball
- Other: _____

05. How frequently do you participate in organized sports, events or activities *
provided by the university?

Once a week ▾

06. How many hours per week on average do you need on sports related activities *
at the university?

1-3 hours ▾

07. How do you rate the availability of sports equipment ? *



08. Does the available equipment are modern and up to date? *



09. How do you rate the accessibility of swimming pools, courts and tracks? *

1	2	3	4	5	
Strongly satisfied	<input type="radio"/> Strongly unsatisfied				

10. How do you rate the availability of lockers, rooms, changing rooms and showers? *

1	2	3	4	5	
Strongly satisfied	<input type="radio"/> Strongly unsatisfied				

11. How do you rate the cleanliness of equipment and amenities? *

1	2	3	4	5	
Strongly satisfied	<input type="radio"/> Strongly unsatisfied				

12. How do you rate the cleanliness of lockers, rooms and changing rooms etc? *

1	2	3	4	5	
Strongly satisfied	<input type="radio"/> Strongly unsatisfied				

13. How do you rate the professionalism of the coaches and trainers? *

1	2	3	4	5	
Strongly satisfied	<input type="radio"/> Strongly unsatisfied				

14. Do you believe additional member of staff is needed? *

- Yes
- No
- Maybe

15. Are there enough time slots available for your sport activities? *

- Yes
- No
- Maybe

16. Does the academic time table interrupt your practice sessions? *

- Yes
- No

17. How satisfied are you with the organization of sport events and tournaments? *

1	2	3	4	5		
Strongly satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Strongly unsatisfied

18. Will you continue the sports activities in the coming academic year? *

- Yes
- No
- Maybe

19. How likely are you to recommend university sports to freshers? *

1	2	3	4	5		
Very likely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Very unlikely

ANALYSIS AND INTERPRETATION

ANALYSIS ABOUT RESPONDENTS' PARTICIPATION

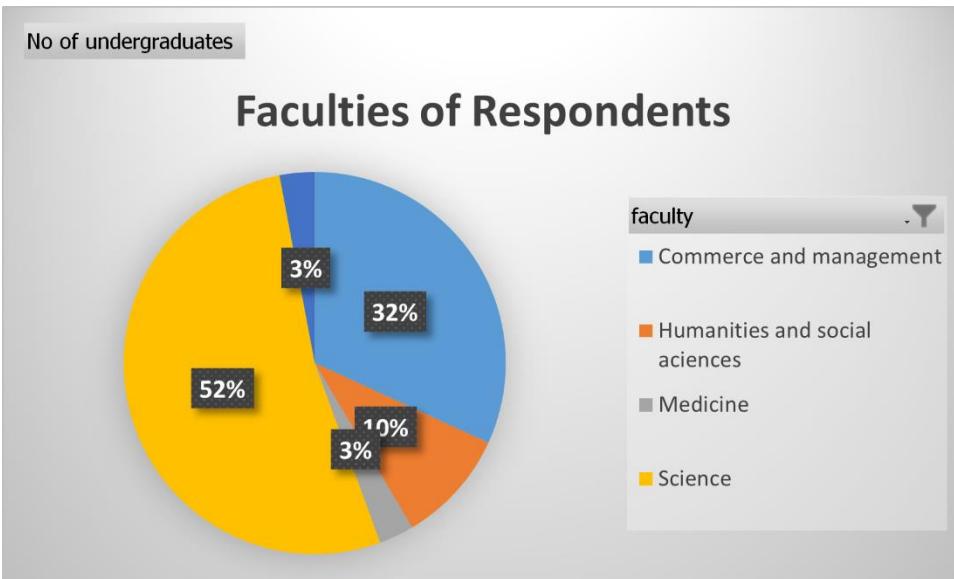


Figure:2.1

This pie chart shows the percentages of undergraduates who responded to the survey faculty wise. According to this pie chart we can see that most of the respondents are from science faculty with the lowest respondents are from commerce and management faculties with a stable percentage of 3%.

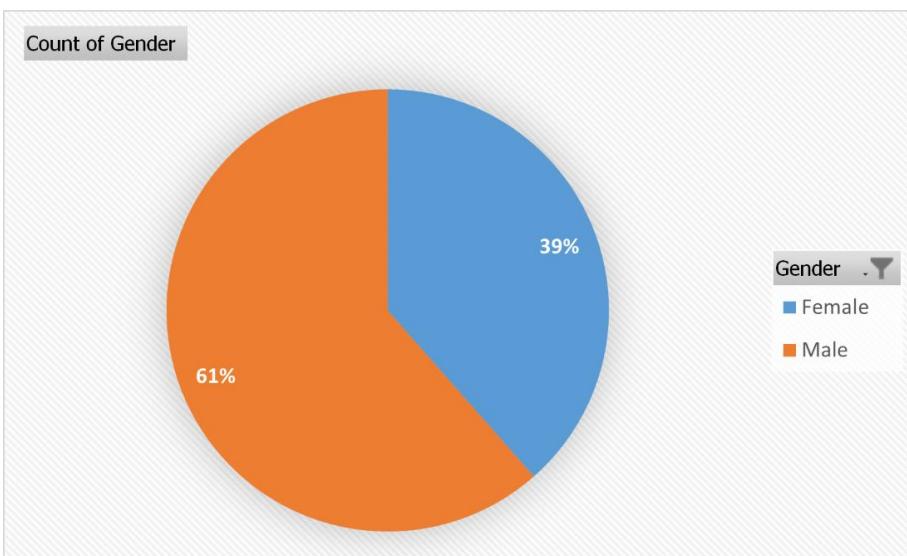


Figure 2.2

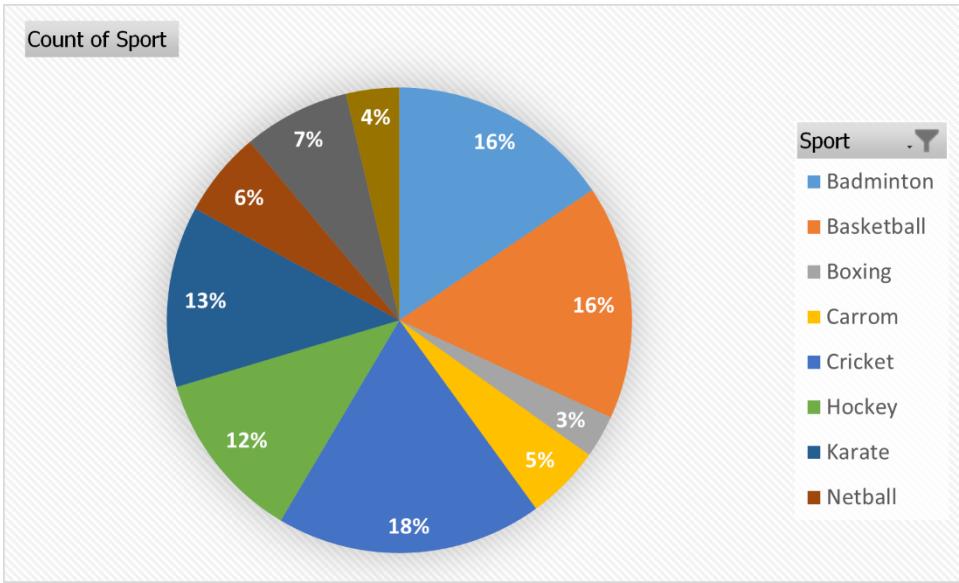


Figure:2.3

This pie chart shows the number of undergraduates attend in each sport in university of Kelaniya. By referring this pie chart we can see that count of the students doing each sports are equally likely spread among the eight sports that we considered for this survey project. But cricket is the most popular sport among the students in university of Kelaniya while the least popular sport is Netball. And also we can see number of sports like badminton and Basketball are average popular among students

Analysis about satisfaction....

How often students participate in practices....

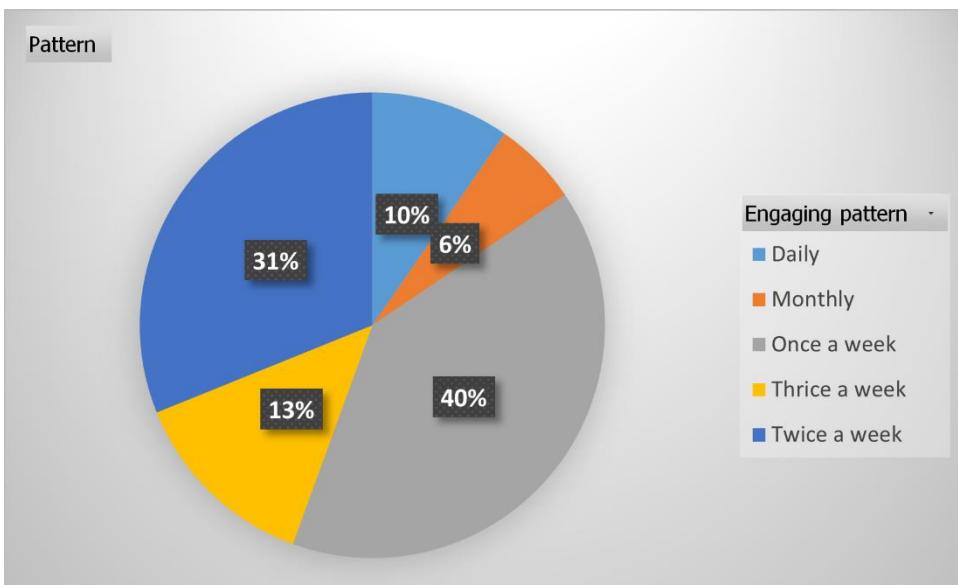
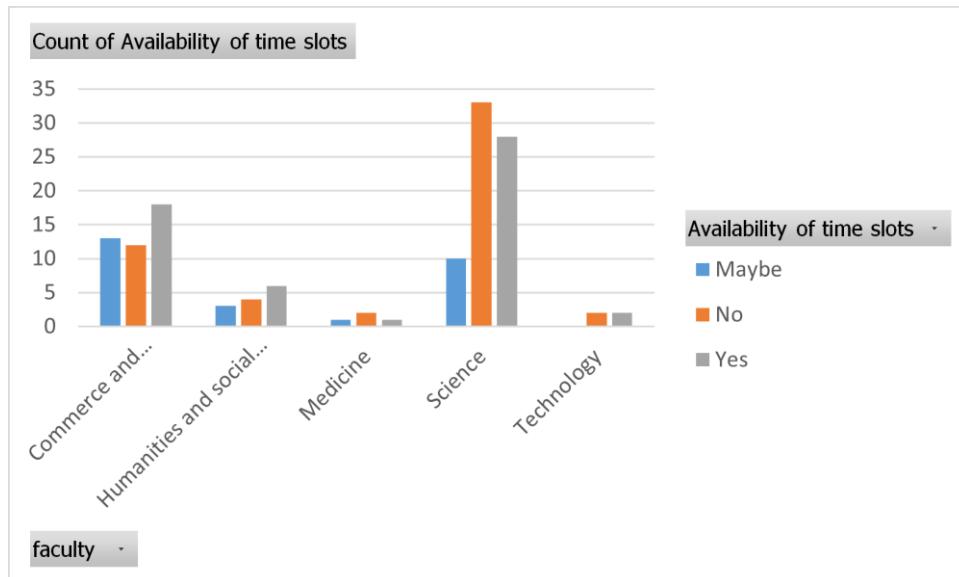


Figure:3.1

This pie chart shows the percentage of practice attending pattern of undergraduates in university of Kelaniya. According to this pie chart we can conclude that most of the students are engaging in sport practices only once a week with 40% and 31% of them engage in sport activities twice a week. Only 10% are engaging in practices daily. So, we see that most of the students don't have much time to spend on doing a sport in university of Kelaniya with their academic stuff.

Amount of time spent on practices.....



This pie chart shows the percentages of time spent to engaging in a sport by an undergraduate in university of Kelaniya. From this pie chart we can see that most of the students just engage in sport activities 1-3 hours per week while the second most of the students just spend 3-6 hours per week. It is less proportion of time for a sport to be success in achievements at all. We can conclude that most of the students have a less interest in engaging in practices neither from engaging pattern nor count of time spent.

Availability of convenient time slots for practices(faculty wise classification)....

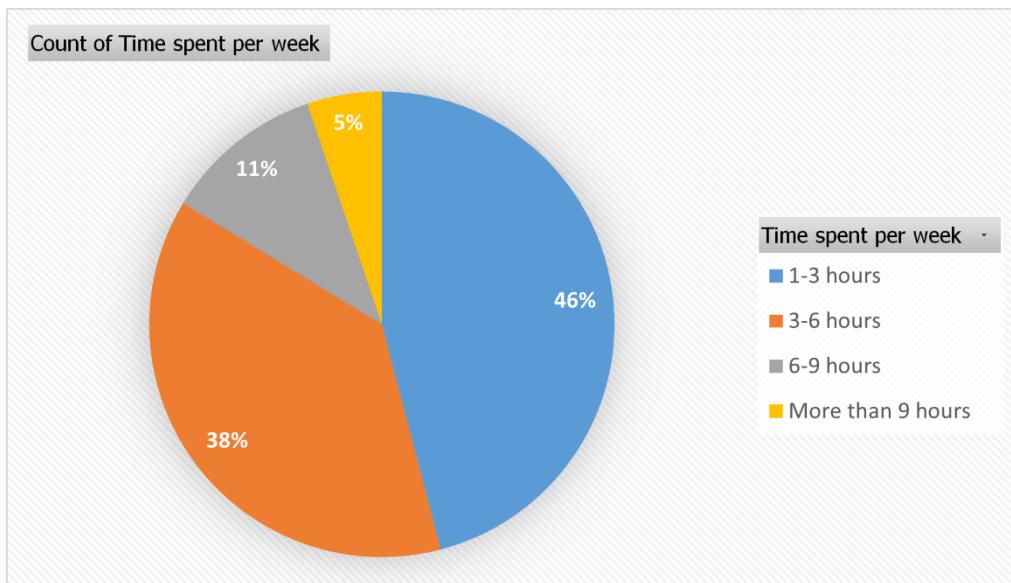
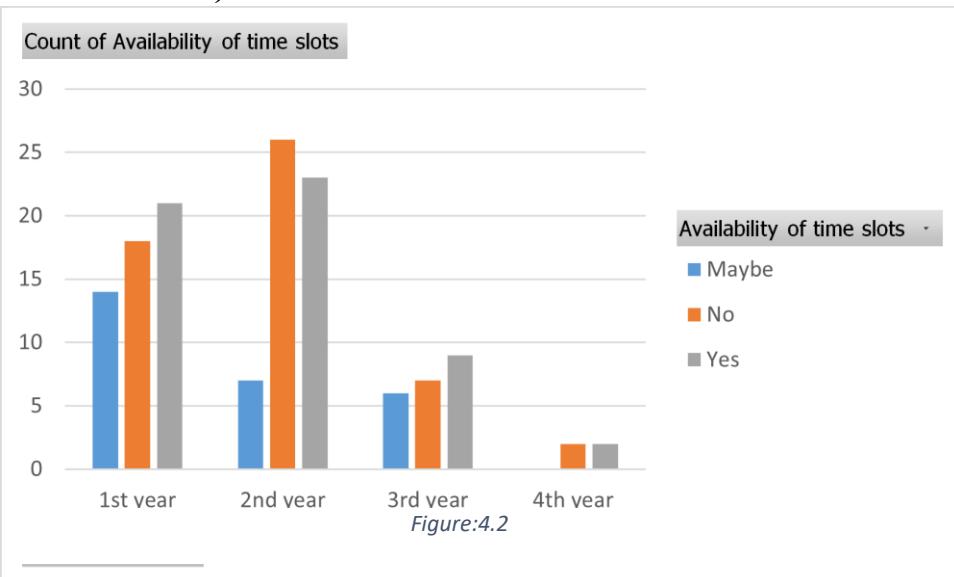


Figure:4.1

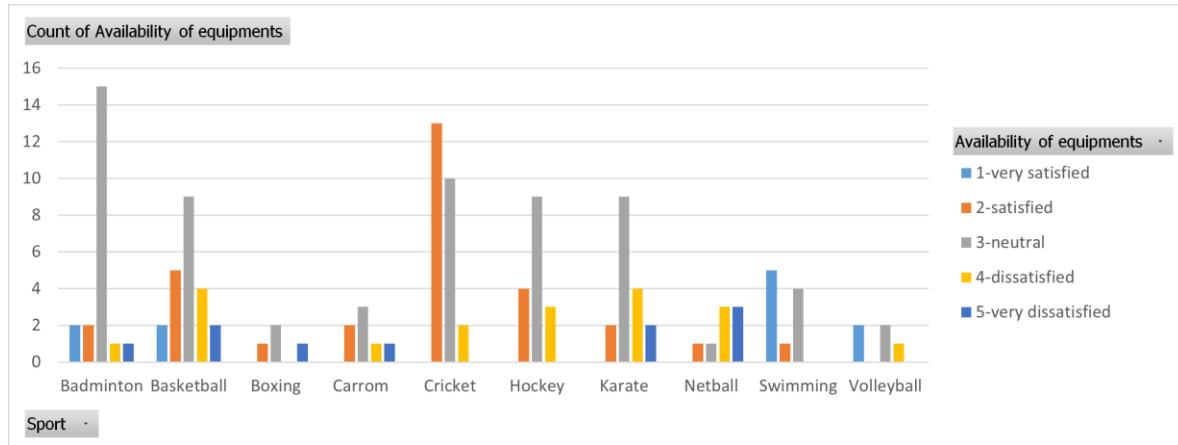
This graph shows student satisfaction with the availability of time slots needed for practices in each faculty. When comes to faculty of science a greater number of students dissatisfied about the availability of time slots while commerce and management students have satisfied.

Availability of convenient time slots for practices(academic year wise classification)



This bar graph shows the student satisfaction towards the availability of time slots needed for practices in each academic year. When comes to 1st and 2nd years students don't have enough time to engage in sports. So, we can conclude that there is a large dissatisfaction among students about the available time that they have to do practices.

Availability of equipment....



This bar graph shows the student satisfaction towards the availability of sport equipment in university of Kelaniya, We can see that most of the responses are within the area dissatisfied and strongly dissatisfied. So, we can conclude that the students are not satisfied with the sport equipment that available in the university .

The modernity of equipment provided for sports.....

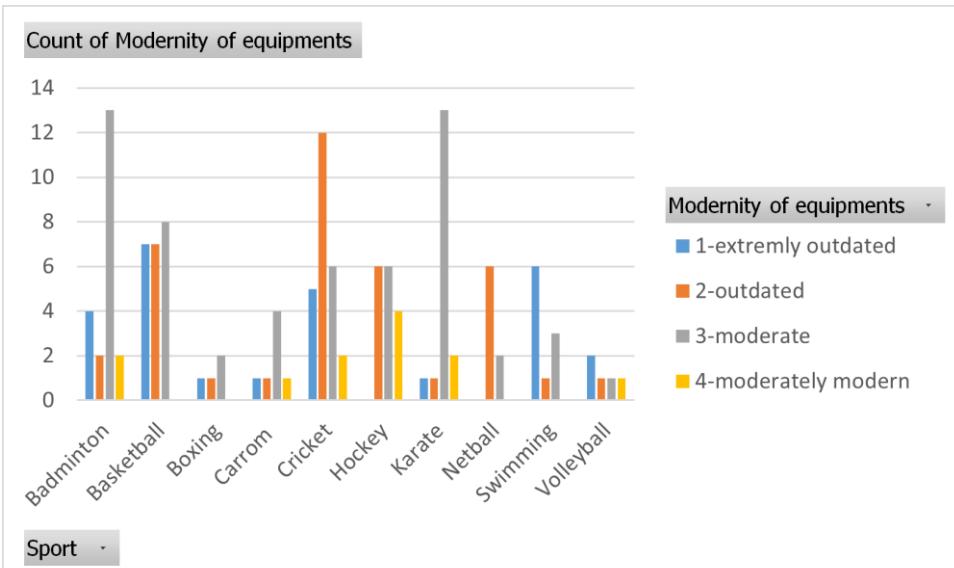


Figure:5.2

This bar graph represents the satisfaction about the Modernity of sport equipment in the University of Kelaniya. According to the bar graph we can see that some sports like cricket, basketball and swimming have more equipments of outdated while only Badminton and karate have moderate equipments. On average we can conclude that in most of the sports students are dissatisfied about the less modernity of the sport equipments that they are given from the university.

Availability of sanitary facilities...

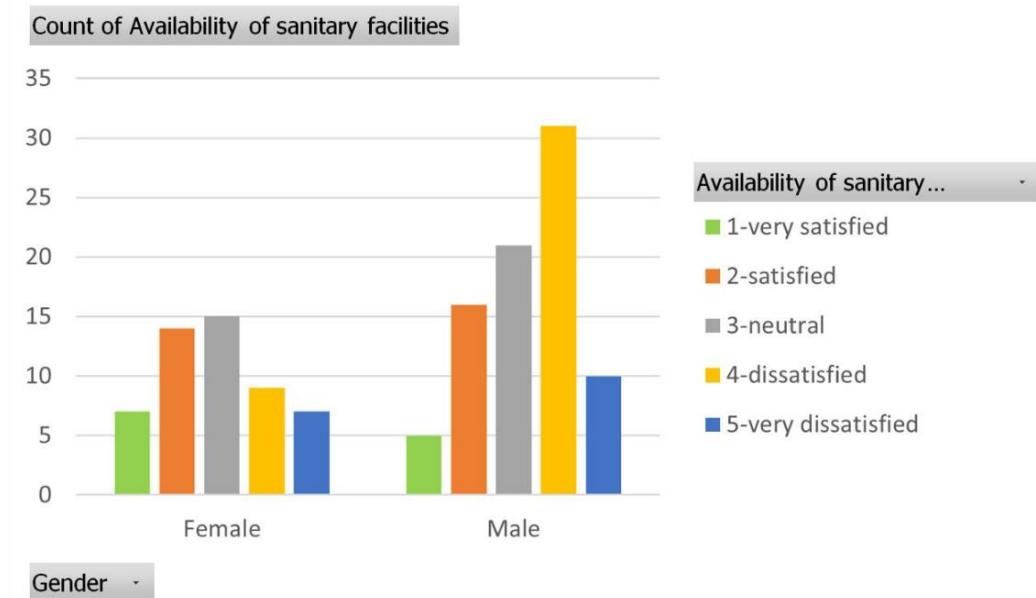


Figure:6.1

According to the graph female players are satisfied at a neutral state. Most of the male players have dissatisfied about the sanitary facilities provided by the university of Kelaniya.

Cleanliness of sanitary facilities provided by the university.

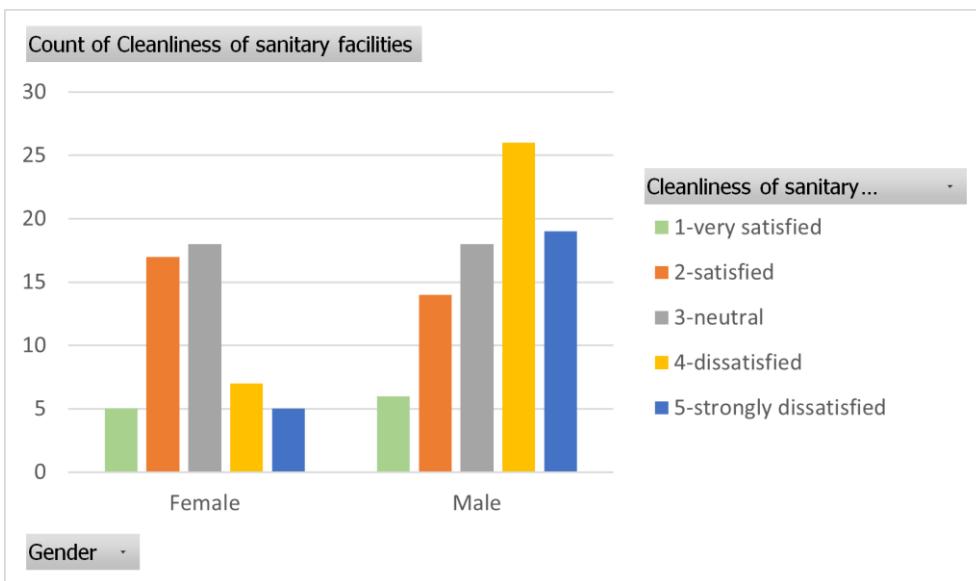


Figure:6.2

This bar graph shows the satisfaction on cleanliness of sanitary facilities given to the student who are doing sports in university of Kelaniya. According to the bar graph we can see that most of the male students are dissatisfied about the given cleanliness and sanitary facilities .From the overall analysis we can conclude that students are not satisfying about the cleanliness of sanitary facilities given by the university

damk

Accessibility of play areas....

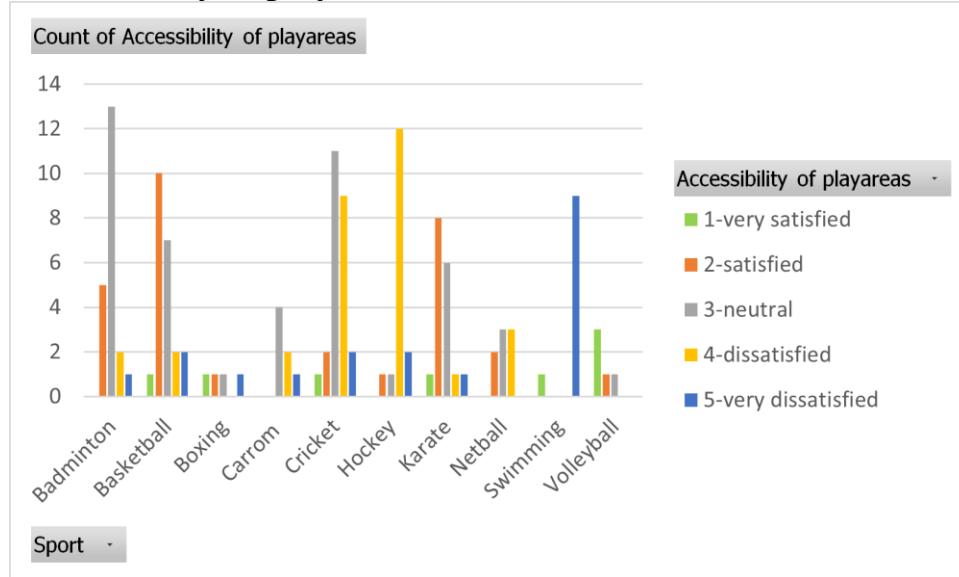


Figure:7.1

This bar graph represents the satisfaction towards the accessibility of play areas in university of Kelaniya. In swimming we can only see a dissatisfaction among students because they don't have a swimming pool in the university premises. But in Volleyball students most of the students are fully satisfied about their play area. Either Volleyball players are satisfied, according to the overall sports there is a dissatisfaction among students about the play areas that they are given from the university.

Cleanliness of play areas and equipment....

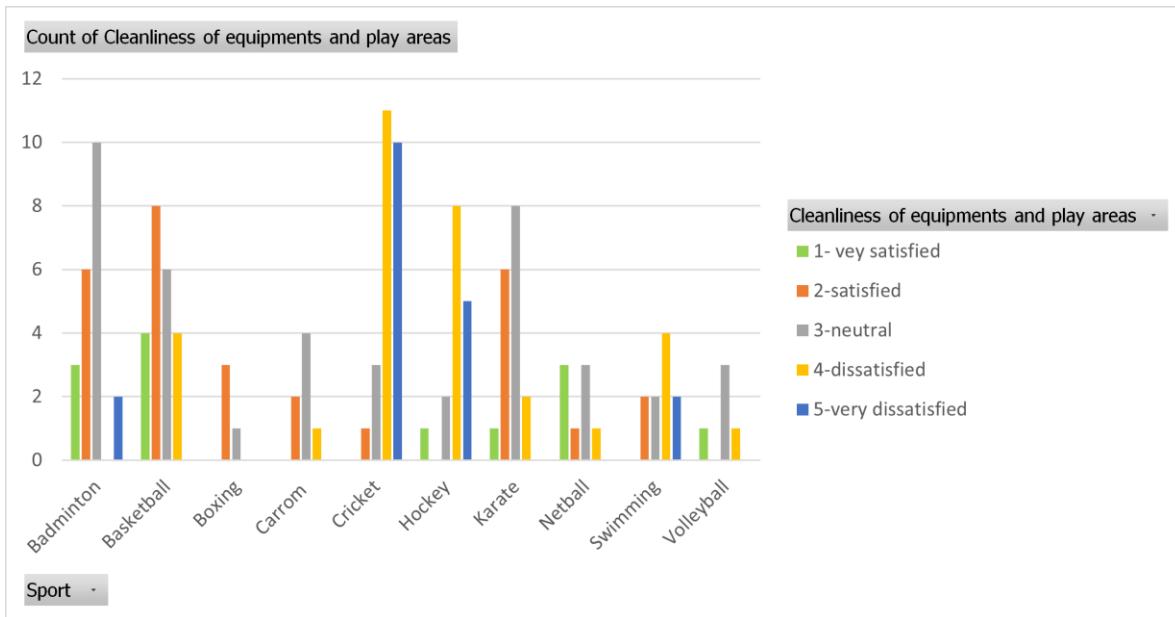


Figure:7.2

This bar graph represents the student satisfaction towards the cleanliness of equipment and play areas available for each sport in university of Kelaniya. By analyzing the overall spread of the bar graph we can see that Most of the students who engage in sports are not satisfied about the cleanliness of equipment and play areas that available. The conclusion is through the innovation of sports the equipment and the play areas also should be innovated

Professionalism of coaches...

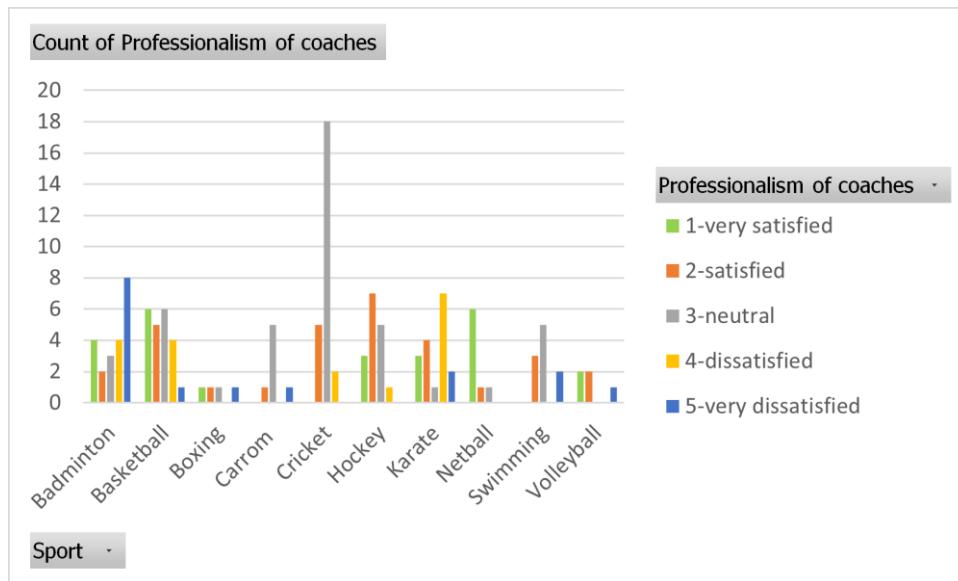


Figure:8.1

This bar graph represents the satisfaction of students towards the professionalism of coaches in sports in university of Kelaniya. In here we can see a considerable dissatisfaction only in Badminton while in other sports we can see a most of students have a average satisfaction about the professionalism of their coaches. So we can conclude that on average students are satisfied about the professionalism of their coaches in the university.

The need of additional staff....

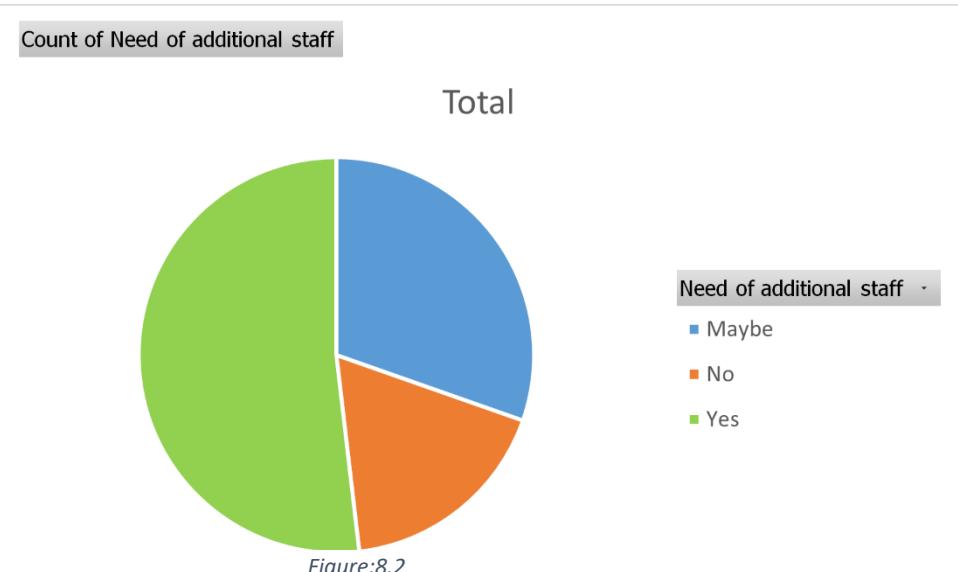


Figure:8.2

This pie chart represents the student's intention about the need of an additional staff member to manage sports in university of Kelaniya. According to the pie chart most of the students say that it is better to have additional staff for the sport management.

The conclusion is students will be more satisfied if the university increases the number of staff members in sport management.

How does the academic timetable interrupted practice sessions (sport wise)

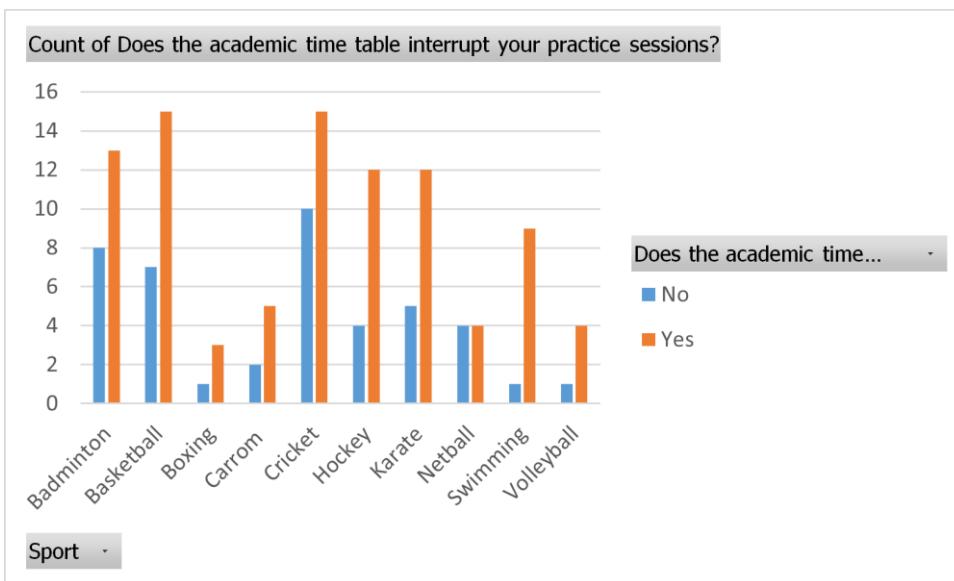


Figure:9.1

This bar graph represents the impact of academic timetable for each sport separately in university of Kelaniya. We can see a considerable interruption from academic time table to the practice session of each and every sport. This confirms further that there should be a rearrangement of academic time table.

How does the academic time table interrupted practice sessions (Academic year wise)

This graph shows the effect of the academic timetable on the sports activities of the students of Kelaniya University in terms of academic year. According to this bar graph we can see that there is a considerable interruption from the academic timetable to the students' sport activities for 1st year and 2nd year students. And also for the majority of 4th year students we can see that there is a very influential interruption from the academic time table .our conclusion is there should be a major reform in the education system in university of Kelaniya

Count of Does the academic time table interrupt your practice sessions?

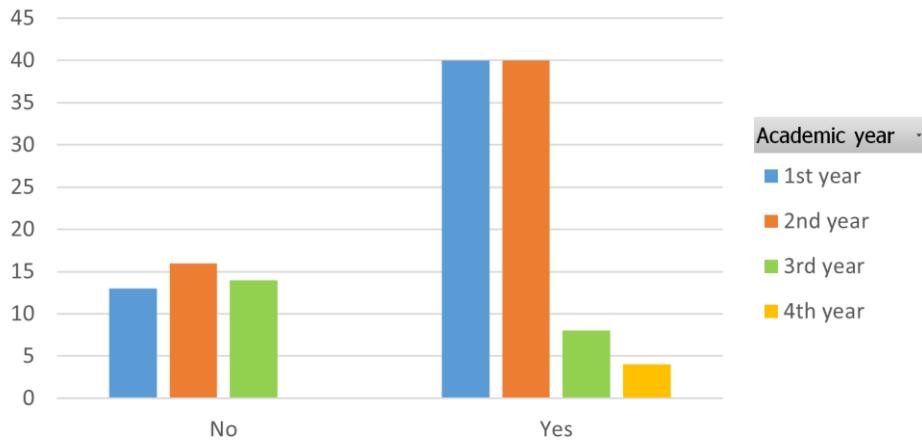


Figure:9.2

Satisfaction with organization of sport events....

Count of satisfaction towards the organization of sport events and...

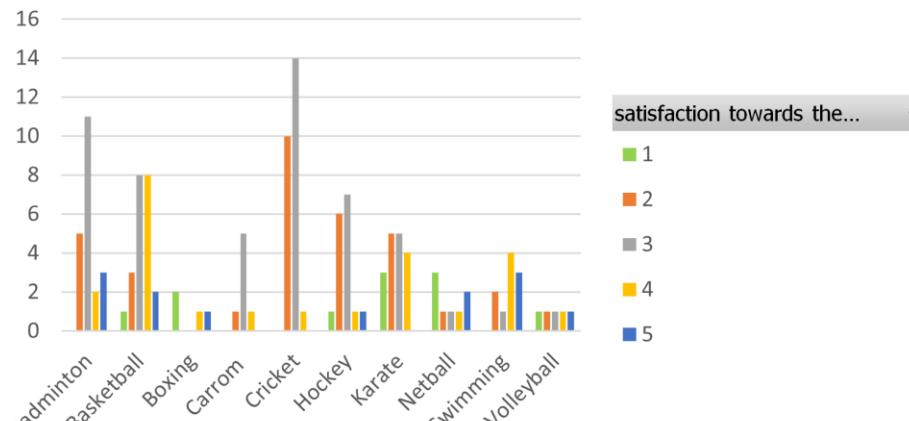


Figure:10.1

This bar graph shows the student satisfaction with the organization of sport events in university of Kelaniya. According to this we can conclude that In each sport most of the students are satisfied about the organization of sports events in the university except volleyball and swimming.

Continuing the sport in the coming years....

This pie chart represents the students' decision on whether or not to hold sports next in academic year. According to the pie chart we see that most of the students are willing to continue their sport activities in next academic year onwards.

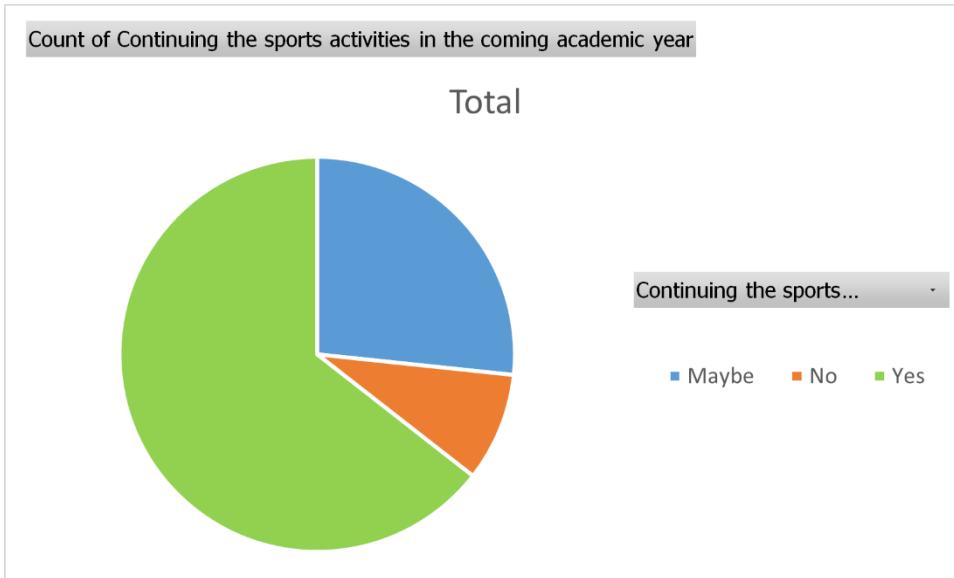


Figure:11.1

Recommending sports to freshers....

This pie chart shows the students' recommendation of sports to the freshers in university of Kelaniya. It shows that most of the students highly recommend their juniors to engage in sports while the minority say that not to engage in sports to freshers. According to our conclusion we say that most of the undergraduates recommend sports to their freshers

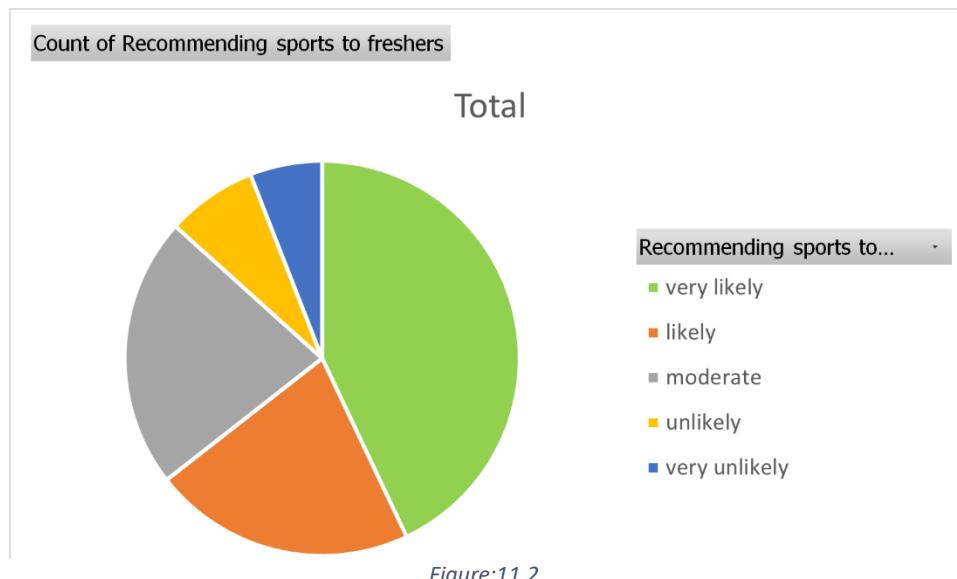


Figure:11.2

CONCLUSION

When considering all the factors students who are engaged in **badminton** and **basketball** are more satisfied about the facilities provided by the university.

Hockey, karate, volleyball and **netball** are the sports which the students are moderately satisfied about the facilities.

All the other sports including **swimming, cricket, carrom, boxing** are the sports which students are more dissatisfied with facilities provided due to difficulty in accessing play areas, lack of professionalism of coaches and lack of modernized equipment.

DISCUSSION

When considering the percentage of students who are doing sports are willing to continue the sport in coming years and students who are likely to recommend the sport to the freshers, we can conclude that most of the students have satisfied about the sports facilities.

But when comes to availability of sanitary facilities and cleanliness of sanitary facilities boxing and carrom are neutrally satisfied about them while females have been satisfied more than the males.

Students who are engaged in cricket, swimming are more satisfied about the availability of equipment. And when comes to modernity of the equipment are provided students who are engaged in basketball are more satisfied than the others and hockey are dissatisfied.

When considering availability of convenient time slots which all the students can participate first year second year students are more satisfied than other academic years. And the students of science faculty are more dissatisfied about the time slots allocated.

And most of the students have spent one to three hours on practices and once a week so we can conclude that students are not much satisfied about the facilities.

Students who are engaged in badminton are very much dissatisfied about the professionalism of basketball. And almost all the sports are requesting an additional staff for coaching.

Students who are engaged in swimming and cricket are dissatisfied about the accessibility of play areas including playgrounds and swimming pools. And basketball is much satisfied about the accessibility.

However almost all the sports have satisfied about the amount of sports events and tournaments organized by the university.

REFERENCES

Sampling methods for census and surveys.- Yates.F (1965)

INDIVIDUAL CONTRIBUTION

Student Number	Task Completed
PS/2020/068	Presentation Questionnaire
PS/2020/074	Methodology Content Interpretation
PS/2020/147	Interpretation Questionnaire
PS/2020/186	Questionnaire presentation
PS/2020/202	Project proposal Progress report Questionnaire Objectives Overall Conclusion Discussion
PS/2020/207	Questionnaire Graphs Tables
PS/2020/210	Introduction Problem Graph interpretation and conclusion
PS/2020/213	Google form Questionnaire
PS/2020/258	Questionnaire Presentation Project proposal