Study of Sports and Gender Stratification
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Abstract

Background: Like every other developing country, Women in Nepal face discrimination in every sector and sports is no exception to it. The aim of this research was to examine the discrimination faced by women athletes of Nepal. 300 Athletes, which included Professional & Semi-Professional Athletes gave their opinions about the survey. Methods: Random sampling technique was used in the study. Binary logistic regression in STATA was interpreted by quantitative analysis method. Data was analyzed using the charts and graphs. The questionnaires holds the certain aspects like level of playing, pay allowance, monetary, ads, sponsorships, media exposure, opportunities/jobs which doesn’t allow women from being part of sports sector. Conclusion: Lack of sports facilities, leagues & tournaments, female coaches & trainees were the major factor that hamper the women sport participation. Findings include national governing bodies & associations must organise campaigns and make sports education compulsory at every level. They must work on grassroot development with proper infrastructure. Sports facilities must be provided to women athletes. If women were empowered in sports and given opportunities to excel in this field, she can pass on this talent to her children and it can pass on generation to generation.

Keywords: Inequality, Athletes, Discrimination, Sports, leagues


1. Introduction:
Nepal is one of the developing nations across South Asia. The female population exceed male population where 15,257,485 were (50.4% female) and 15,015,501 were (49.6% male)¹. Ministry of youth and sport is the governing body for all sports association & federations in Nepal². The country majorly depends upon the remittance ($8.1 Billion) and tourism industry³. Being home to 8 of the 10 highest mountains in the world which includes the highest peak. The birth place of the light of Asia “Gautam Buddha”, Nepal had gained huge popularity across the world. The population of around twenty-eight million people⁴. Gender equality was found to be increasing in the educational, industrial and various other sectors. But sports industry was an exception to it. It was because of the stigmatic beliefs of the society which still prevalent. Women were victim of traditional practices like child marriage or early age marriage because of the poverty and low income⁵. This leads to unemployment. Sports education was not practiced as a mandatory subject rather it was considered as an extra-curricular activity⁶. Major sports namely Football, Cricket, Taekwondo, Judo, Table Tennis, and Badminton are widely played across Nepal. According to Himalayan Times (Newspaper of Nepal), Audience still prefer watching men sports as compared to women. It was due to the fact that women matches were considered to be less aggressive and energetic⁷. Due to these major factor, representation of the country in International level by women was almost negligible. But since past few decades, Nepal had participated at many of the sports events globally like Olympics, Asian Games, South Asian Games and various International level and performance was appreciable⁸.
This paper aims to explain the hurdles faced by women in the sports sector in various province of Nepal and to find out the causes of discrimination and facilitate the solution to the problems.

The male dominated society has made women’s participation less in any of the sport. Females were known about the discrimination which they are facing in the society. They were used to it because the mentality of the citizens in the society, they live. Sports was considered as the education, activities, professions and cultural phenomena which are dominated, manipulated and controlled by men in Nepal.

According to reports the main reason for seeing a woman in a backward stage was because of their education. One of the most important educational tools for promoting the social inclusion was sports, but the athletes especially the females were mostly confronted with a lot of hurdles. Because of the belief that men usually practice sports, it was usually preferred to be watched and get more media coverage compared to the female sports. There were various forms of sexual discrimination in sports. Racial and ethnic discriminations were seen in the professional sports. Other than this, discrimination among the athletes on the basis of gender in the payment also prevails.

Major reason for less women participation was the pay structure in the Sports Industry. They were usually paid less as compared to their male counterparts which don’t allow their day to day fulfilments. The thought of men participating more in physical activities as they were considered to be stronger than women has been passed through generations and it was still in continuation which had prevented women from participating. Nepal is an underdeveloped country situated between the two giants India and China. It has the lowest female literacy rate which stands at only 42.5%. It was believed that men are the pillars of every family for managing the economic activities and thus are given more priority in terms of education and any other developmental sectors.

Since ages, sports had been considered as a recreational activity when played with passion can be turned into a career for many people. Another benefit of sports was its healthy contribution towards physical and mental health if we engage ourselves into it. In this way, sports come with ample of opportunities and healthy development for humans.

Government is one of the biggest driving forces that can accelerate the progress of sports industry in terms of women. Government's appropriate allocation of budget for players can encourage and motivate them to actively participate in sports. Another major role a government can play in terms of women's sports was the enrolment of suitable coaches for females whether in some educational institutions or government training centers. It was often believed that the government coaches are biased towards men sports and paid less attention to women's sports. Other than this they were often accused of sexually assaulting the female athletes and the budget for the sports are not allocated properly. Government should take stringent actions against this kind of behaviors and promote safe environment for the sportswomen.

Media plays an important role in shaping any industry. It has a huge impact on the sports industry. The name and fame of the sportspersons were mainly based upon the amount of coverage they get by the media persons. The coverage of the media in the context of women sports clearly gives us a picture of the discrimination faced by sportswoman. The official broadcasting for any of the female sports is usually not done across the country. Moreover, due to less engagement of media in women's sports sector, they suffer from smaller number of viewers and less participation. Due to this, the investors were not willing to spend more in the women's sports. As a result, women's sports usually encounter lack of sponsorship and counselling and training from International coaches and trainers.

2. Material & methods:
The method used was binary logistic regression in computing whether there was a gender discrimination in sports based on the data collected. Binary logistic regression was used to compute the probability of an event, which in this case was the probability of a person being discriminated. The regression equation was given as,

\[ \Pr(Y = 1|X_1, X_2, X_3, \ldots, X_k) = \frac{1}{1 + \exp\left(-\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k\right)} \]

Here, the dependent variable denotes the probability of \( Y \) and the variables \( X \) are the independent variables.

2.1 Selection of Subjects:

The subjects were the individuals playing various sports in Nepal on different levels. The data was collected on athletes and sportsperson playing at various levels or even individuals who play any sports for recreational purpose, making them the subjects. Thus, individuals playing sports as a hobby or profession in Nepal are the subjects of this research.

2.2 Selection of Variable:

The dependent variable on this paper was whether an individual faces discrimination or not, which was computed by the probability of whether a person was being discriminated or not. The variables chosen are given as,

- **DISCRIMINATION**: This variable denotes 1 if any individual feels moderately or highly discriminated and 0 otherwise. The question was asked from the individuals on the scale of 1 to 5, if they feel discriminated in their respective sports, where 1 being no discrimination and 5 being highly discriminated. This variable is binary, as the values 4 and 5 are chosen to be 1, with moderately or highly discriminated, while the rest of the values are chosen to 0 with low or no discrimination.

- **AGE**: This variable denotes the age of the individual. This was computed from the date of the birth of an individual, where the year of birth was subtracted from the next year, which is 2021. This was done to get the age of an individual.

- **FEMALE**: This variable was binary, with 1 stating the individual was female and 0 stating the individual was male.

- **DISCOURAGED**: This was a binary variable with 1 denoting that the family of the individual has discouraged them from playing their respective sports, 0 otherwise.

- **ADS and SPONSORSHIP**: This was a binary variable with 1 denoting that the individual has been offered any ads or sponsorship from playing sports, 0 otherwise.

- **PAID**: This was a binary variable with 1 denoting that the individual was being paid for playing their respective sports, 0 otherwise.

- **PAIDLESS**: This was a binary variable with 1 denoting that the individual was being paid less in their respective sports than other players along with them, 0 otherwise.

- **DISTRICT**: This was a binary variable with 1 denoting that the individual has played at District level in their respective sports, 0 otherwise.

- **STATE**: This was a binary variable with 1 denoting that the individual has played at State level in their respective sports, 0 otherwise.
UNIVERSITY- This was a binary variable with 1 denoting that the individual has played at University level in their respective sports, 0 otherwise.

NATIONAL- This was a binary variable with 1 denoting that the individual has played at National level in their respective sports, 0 otherwise.

INTERNATIONAL- This was a binary variable with 1 denoting that the individual has played at International level in their respective sports, 0 otherwise.

BASKETBALL- This was a binary variable with 1 denoting that the individual plays Basketball, 0 otherwise.

BADMINTON- This was a binary variable with 1 denoting that the individual plays Badminton, 0 otherwise.

VOLLEYBALL- This was a binary variable with 1 denoting that the individual plays Volleyball, 0 otherwise.

CRICKET- This was a binary variable with 1 denoting that the individual plays Cricket, 0 otherwise.

TABLE TENNIS- This was a binary variable with 1 denoting that the individual plays Table Tennis, 0 otherwise.

FOOTBALL- This was a binary variable with 1 denoting that the individual plays Football, 0 otherwise.

Among these variables, DISCRIMINATION was the dependent variables. The purpose of the study was to find whether discrimination is based on gender or not, specifically, whether female athletes were discriminated or not. While the rest of the variables were the independent variable in this study.

2.3 Data Collection:

The data was collected through online google forms questionnaire. In this questionnaire, an individual was asked to fill out their details like gender, date of birth, sports played by them, the level at which they played,and many more. These forms are then sent to various individuals in Nepal sports teams and were asked to share even more. Generally, these forms are filled by athletes and players of Nepal. The data was collected on more than 300 individuals across Nepal.

2.4 Statistical Analysis:

Using STATA, the logistic regression was computed given the dependent and independent variables. The coefficients based on this regression were obtained from this computation using maximum likelihood method which was done by the software. The maximum likelihood method obtained the coefficients of the regression which maximize the likelihood function. The likelihood function measures the goodness of fit for any model. The likelihood function is basically the probability of fitting the model given in the unknown coefficients. In this estimation, various coefficients were used to estimate the model. Then, goodness of fit was also computed for the model. Then, some other coefficients were estimated and used as well and goodness of fit was computed again. This goes on unless, the coefficients with the maximum goodness of fit was found, given the variables. This was done by the software itself, which computes the coefficients after computation.

The command used for inputting the data from excel sheet in the software was **import excel**. Even, the command to compute the results of the logistic regression was **logit dvar ivar1 ivar2 ivar3 ...**, where dvar was the dependent variable, and ivar1, ivar2, ivar3 denotes the independent variables used in the regression.

Then the coefficient on variable GENDER was tested based on the hypothesis, whether it was significant or not. If the coefficient on variable GENDER was found to be
significant, then it can be said that the discrimination faced by any individual was depended on GENDER as well.

The coefficient was computed using software STATA, where the equation was given as,

\[
\Pr(Y = 1|X_1, X_2, X_3, \ldots, X_k) = \frac{1}{1 + \exp(-[\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k])}
\]

Now, for testing the coefficient of variable \(k\), \(t\)-test statistic was used, which was given as,

\[
t = \frac{\beta_k - 0}{se(\beta_k)}
\]

If the absolute value of this test statistic was found to be greater than 1.96, then the coefficient was said to be significant in the above regression at 95% level of significance.

3. Results and Discussion:

The given collected data, it can be seen in Figure no.1, the percentage of Male as well as Female responses,

![Figure no.1](image_url)

Also, from the data, the percentages of individuals playing sports is given below in Figure no.2,
Now, the given data, the percent wise chart depicting the level at which individuals have played in their respective sports is given below in Figure no.3.

Now, the response of the individuals on the scale of 1 to 5, on how much they feel discriminated is shown below in Figure no.4.
The command used to import the data and then compute the logistic regression was given below. The name of the excel file in which the data was stored was 'Research Paper (Data Collection).xlsx'.

```

  logit Discrimination Age Female Discouraged AdsSponsorship Paid Paidless University District State National International Basketball Badminton Volleyball Cricket TT Football
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The reason of logistic regression is given below.

Logistic regression

| Discrimination | Coef.  | Std. Err. | z      | P>|z| | [95% Conf. Interval] |
|----------------|--------|-----------|--------|--------|----------------------|
| Age            | 0.042091 | 0.0257924 | 1.61  | 0.0507 | 0.0106431 - 0.0547613 |
| female         | 1.337035 | 0.377609  | 3.54  | 0.0005 | 0.9726947 2.078132  |
| Discouraged    | 2.055956 | 0.4018295 | 5.13  | 0.0000 | 0.9726947 2.078132  |
| AdsSponsorship | -0.987451 | 0.5184334 | -1.90 | 0.0557 | -2.60366 0.6287572 |
| Paid           | 0.7224851 | 0.5372933 | 1.36  | 0.1756 | -0.321741 1.766404  |
| Paidless       | 0.77399   | 0.5126068 | 1.52  | 0.1289 | -0.227486 1.782166  |
| University     | 0.7634106 | 0.628462  | 1.24  | 0.2151 | -0.443588 1.974407  |
| District       | 0.6749745 | 0.6646271 | 1.01  | 0.3110 | -1.227671 2.377582  |
| State          | 1.801522  | 0.826307  | 2.14  | 0.0334 | 0.1661826 2.291647  |
| National       | 1.335981  | 0.548252  | 2.40  | 0.0169 | 0.743229 2.221478  |
| International  | 1.795567  | 0.7726659 | 2.53  | 0.0111 | 0.363126 3.200407  |
| Basketball     | 0.6922214 | 0.6023401 | 1.16  | 0.2463 | -0.823434 1.802896  |
| Badminton      | 0.9234251 | 0.5834228 | 1.59  | 0.1132 | -0.210627 2.056913  |
| Volleyball     | 1.310268  | 0.806815  | 1.62  | 0.0522 | 0.129323 2.392854  |
| Cricket        | 1.553908  | 0.6635246 | 2.37  | 0.0185 | 0.553249 3.153994  |
| TT             | 1.429482  | 0.7262945 | 1.97  | 0.0499 | 0.005979 2.852593  |
| Football       | 0.6631339 | 0.7099148 | 0.95  | 0.3444 | -0.710341 2.036592  |
| _cons          | -3.257618 | 0.876384 | -3.72 | 0.0000 | -4.975299 -1.539937 |

In the table above, the column Coef. shows the coefficients of all the independent variables on the left and the last term denotes the constant term. The column Std.Err. denotes the standard error of those coefficients. The column z denotes the test statistic of those coefficients, testing whether the coefficients are zero, was given. The column P>|z| denotes the probability of the coefficient being zero, was given. The final column [95% Conf. Interval] denotes the confidence interval of the coefficients at 95% level of significance.

Now, to test the whether the coefficient of FEMALE was significant or not, that was, it should be included in the regression or not, the t test discussed above was already provided above.

Here, it can be seen in the table, P>|z| has a value of 0 for the coefficient of variable FEMALE. This denotes that the probability of the mean of the coefficient being equal to zero is 0. Thus, the coefficient of the variable FEMALE was not zero. Also, it can be seen that the coefficient of the variable FEMALE was positive. Thus, this states that if the individual was female, then the probability of her being discriminated increases, given the rest of the variables remaining same.

In this study the data was collected on more than 300 individuals, who play sports either as recreational purpose or professionally in Nepal. The data includes their gender, whether being paid or have any ads or sponsorship, and many more on each individual. The average age of the study was 26 years old and ranged from 18 – 30 years mostly. It was found using
the logistic regression, that on average, if the individual was female, then the probability of her feeling discriminated was higher, given all the other variables remains the same\textsuperscript{(23)}. This states that female athletes feel more discriminated in any sports compared to their male counterparts\textsuperscript{(24, 25)}. The purpose of the study was to find discrimination based on gender; this result concludes the same.

It can be interpreted that the data collected was less, which was around 300 individuals. But Nepal being a small country, has limited female athletes\textsuperscript{(26)}. Also, many of the athletes don’t know how to fill out forms. Even there were cases, where the individuals don’t have internet access, or were out of reach and the education they have gained, as many of them didn’t know how to fill the form\textsuperscript{(27)}.

Also, it can be discussed that while collecting the data, there was bias, such that variables like education level or family income were not included on the regression, leading to data on only those individuals with good level of education and belonging to middle or upper-class families\textsuperscript{(28, 29)}. But besides this, there was not biasness that might exist on this paper. As for the above stated biasness, level of education seems like a good point of biasness but the family income was not much likely to affect the study. Diversification of the athlete’s participation & long-term goals in respect to federations must be there\textsuperscript{(30)}. Budget must be allocated in the particular sector as per needed. Sponsorships, commercial ads, exposure must be given to female athletes for boosting up the confidence. Stakeholders plays a key role and must be allowed to invest in sports sector mainly for the females in the country\textsuperscript{(31)}.

The another point that states that the response might not be true, or might depend on their psychology of them being feeling discriminated if they are female. But that is not possible for majority of females in this study and might be limited to very few. The incentive to provide false information in this study is not there, as the individuals who don’t feel like filling out form, might chose not to fill it rather than providing false information. Also, it is a common understanding that for an individual to provide false information, will not have much impact on the result of the study, that is why for an individual to provide false information might not exist in this scenario, as it is likely to exist in case the individuals were paid.

4. Conclusion:

On the basis of the major findings of the study, the following conclusions were adopted. The consequence of the study indicates that majority of women holds their interest in participating at various sports activities & levels but due to the lack of infrastructure in sports, lack of family’s sporting environment, household chores that binds them inside their homes, they aren’t able to be a part of it. Nepal has presented itself as a woman driven country where women are actively participating in the various sectors of development. President and cabinet ministers simultaneously. Being a country where the population of women exceeds men, women can contribute a lot more in the economic sector through sports if given proper opportunity and resources. Sports in particular is an activity, which can be passed through generations. If women were empowered in sports and were given opportunities to excel in this field, she can pass on this talent to her children and it can pass on generation to generation.

It was often observed that the opinions given by women were discarded and were not considered in the decision-making process. Therefore, suggestions to be made to establish a national institution for all-round development of women on the field of sports. Act against the harassment of players must be made. They must focus on empowering and protecting them at the end of their sporting career. Programs should be conducted by the schools and the sports associations in order to raise the culture of sports. They should organise campaigns and make sports education compulsory at every level. Governing bodies must work on grassroot development with proper infrastructure. Sports facilities must be provided to women athletes. They should be targeting the guardians because most of the
resistance for participation is offered by them. More encouragement from parents can boost their confidence and engagement in physical activities.

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**References:**


6. Factors Affecting Women’s Sport Participation in Nepal (Doctoral dissertation)


