

# A Comparative Study of the Scholastic and Athletic Abilities of University Football Players

## - Regarding the Maintenance of Self - Efficacy in Athletics and Academics, and Other Related Matters -

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### Abstract

In this study, we analysed the relationship between athletic and academic self - efficacy, where one condition was to establish both athletic and academic abilities. As the analytical method, we compared and analysed the findings of Kawada et al. (2015) and those of O University in this study, and the results are shown in the following three points.

1. The average marks of the athletic and academic self - efficacy of first and second - year students were high and indicated thus that a correlation can be easily shown. Since football players who were active during high school and managed excellent grades in academics are highly likely to enter university, it is conceivable that these high school experiences greatly influenced the values of their athletic and academic self - efficacy.

2. The athletic self - efficacy values of third and fourth - year students were lower than those when first entering university, if they were not selected to be among the 11 players chosen out of the many members.

3. From the trend indicated in the second conclusion, the maintenance of athletic self - efficacy, an essential element for achieving scholastic and athletic abilities, is a difficult environment for third and fourth - year students. Due to this environment, it was considered difficult for many players to continue to maintain their scholastic and athletic abilities up to graduation.

**Key words :** Bunburyodo, Athletic self - efficacy, Scholastic self - efficacy, Comparison

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## Introduction

Kawada et al. (2015) examined the relation between the self - efficacy of sports players as they related to athletics and academics. Thus, a positive correlation was established

between athletic self - efficacy and academic self - efficacy in first and second - year students. In other words, the results showed that the higher one's athletic self - efficacy or academic self - efficacy is, the higher the other self - efficacy becomes. This correlation was not indicated in relation to third and fourth - year students. The result derived indicated that the relationship of both self -

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efficacies is restructured within the new environment of a university student who has graduated from high school.

In this study, we aimed to analyse and examine what kind of both self - efficacies are reconstructed during the above - mentioned third and fourth years, and what sort of environments or reasons they are generated by.

## Method

The subjects of our study were football players belonging to the O University football club. The study subjects and implementation dates are shown in <Table 1>.

Table 1. The study subjects and implementation dates

Subjects	O University soccer club players
No. of persons	81 people
Academic year	1st - 4th year students
Gender	Male
Effective date	April 2016

In this study, we utilised the same questionnaire used by Kawada et al. (2015).

The psychological index that utilised this questionnaire - based survey in relation to athletic self - efficacy is an athletic self - efficacy scale created by Marcus et al. (1992) in relation to physical activity and athletics. In addition, the psychological index pertaining to academic self - efficacy utilised the athletic self - efficacy scale created by Marcus et al. (1992) in relation to physical activity and athletics as a reference, and it was converted to an academic side. These scales were used because they were effective in examining self - efficacy in contrast with obstacles to continuing one's sports activities or academics. The questionnaire form is shown in Material 1. The answer to each question was provided based on a five - grade evaluation, where a score from 5 to 1 was given for each.

At the time of carrying out the questionnaire - based survey, we fully explained the objectives of this study to the study participants and implemented the survey based on the privacy policy of O University once we had gained the permission of the participants.

## Analysis

The results obtained in the questionnaire - based survey were statistically tested (correlation analysis, comparison between average value groups, multivariate analysis). Statistical testing was performed using general - purpose statistical software (SPSS ver. 23, etc.) on a PC. We compared and examined the self - efficacy values of all players in each academic year from the results of the O University survey and the findings carried out by Kawada et al. (2015), and we analysed these trends.

## Limitations of this study

In this study, we attempted to compare and examine the self - efficacy values of O University football players and K University football players. We then focused on the trends in football players by academic year in both universities. In addition, we focused on self - efficacy as one condition for establishing the scholastic and athletic abilities of university students. From these survey results, it is not possible to reveal the direct causal relation between self - efficacy and scholastic and athletic abilities. Furthermore, while it is possible to grasp some of the trends surrounding football clubs that have many players, as is the case with these two universities, it is presumably difficult to say that these trends clearly apply to a few or all university football teams.

## Result and Consideration

Regarding the Average Marks for Athletic and Scholastic Self - Efficacy

The average marks and respective standard deviations for

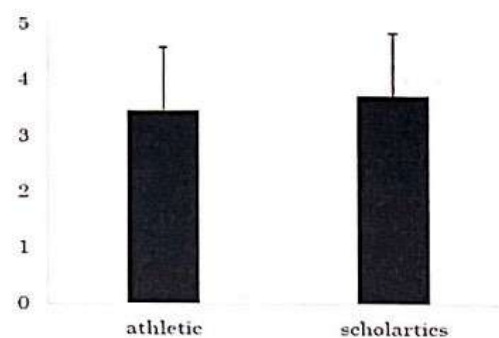


Figure 1. The average marks and respective standard deviations for athletic and scholastic self - efficacy in all the questions



athletic and scholastic self - efficacy in all the questions are shown in <Figure 1>.

The average mark for athletic self - efficacy was  $3.5 \pm 1.2$  points, and the average mark for scholastic self - efficacy was  $3.7 \pm 1.1$  points.

A T - test was performed to analyse the difference in average marks for athletic and academic self - efficacy. Thus, a significant difference was established as with K University ( $t(81) = -1.1$ ). The average marks for athletic self - efficacy at O University scored higher than the study results of Oka (2003), which targeted ordinary students as with K University. The average marks at O University were low when compared to K University. In addition, no significant difference was established between the athletic and scholastic self - efficacies of O University. From these results, regardless of the difference between the average marks for O University and K University, no significant difference was established between athletic self - efficacy and scholastic self - efficacy. Therefore, athletic self - efficacy and scholastic self - efficacy tend to indicate equivalent values regardless of the average mark values.

We then analysed the correlation between the average marks of athletic and scholastic efficacy, which is shown in <Figure 2>.

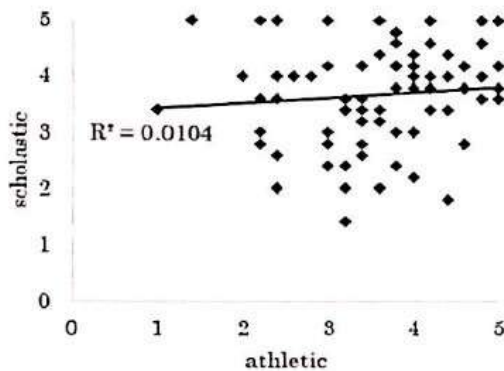


Figure 2. The correlation between the average marks of athletic and scholastic efficacy

Correlation analysis was performed to see the relevance of athletic and scholastic self - efficacy. A correlation was established in K University between the average marks of athletic and scholastic self - efficacy ( $r = 0.39$ ). However, this correlation was not established in O University ( $r = 0.10$ ). To analyse these results, we added consideration over the average marks of athletic and scholastic self - efficacy for each academic year.

Regarding the Average Marks for Athletic and Scholastic Self - Efficacy in Each Academic Year

The average marks for athletic and scholastic self - efficacy in each academic year are shown in <Figures 3 - 6>.

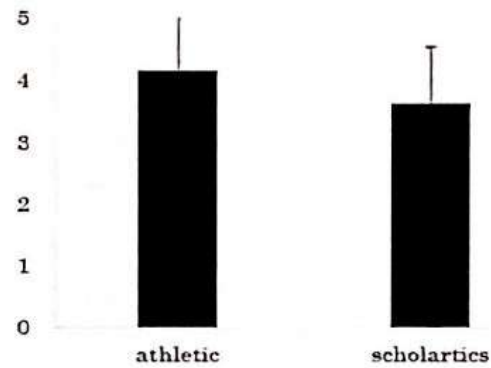


Figure 3. The average marks for athletic and scholastic self - efficacy (first - year student)

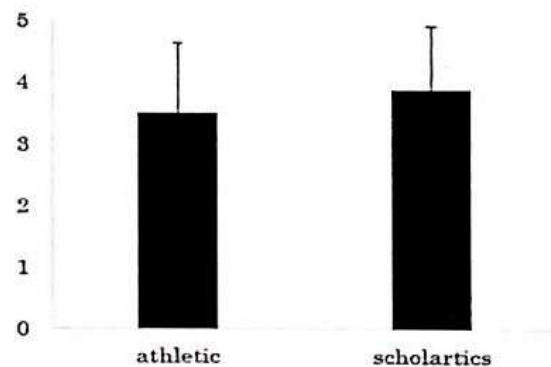


Figure 4. The average marks for athletic and scholastic self - efficacy (second - year student)

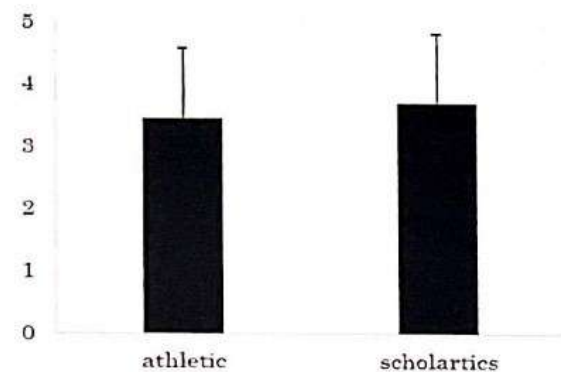


Figure 5. The average marks for athletic and scholastic self - efficacy (third - year student)

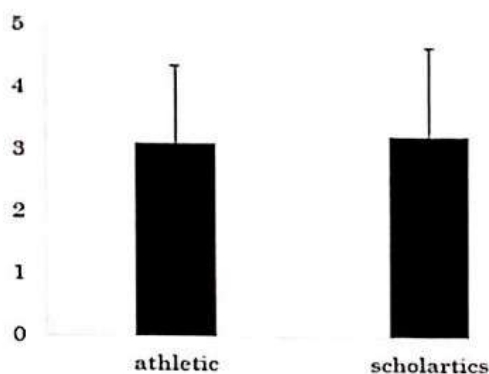


Figure 6. The average marks for athletic and scholastic self - efficacy (fourth - year student)

Each of the average marks for first - year students were  $4.2 \pm 1.1$  points and  $3.6 \pm 0.9$  points, respectively. AT - test was performed to analyse the difference between the average marks for athletic and scholastic self - efficacy in first - year students. No significant difference was established ( $t(13) = 1.69$ ) in the results. Each of the average marks for second - year students were  $3.5 \pm 1.1$  points and  $3.9 \pm 1.0$  points. AT - test was performed to analyse the difference between the average marks for athletic and scholastic self - efficacy in second - year students. No significant difference was established ( $t(31) = -1.90$ ) in the result. Each of the average marks for third - year students were  $3.4 \pm 1.1$  points and  $3.7 \pm 1.1$  points. A T - test was performed to analyse the difference between the average marks for athletic and scholastic self - efficacy in third - year students. No significant difference was established ( $t(25) = -1.10$ ) in the result. Each of the average marks for fourth - year students were  $3.1 \pm 1.2$  points and  $3.2 \pm 1.4$  points. A T - test was performed to analyse the difference between the average marks for athletic and scholastic self - efficacy in fourth - year students. No significant difference was established ( $t(12) = -0.30$ ) in the result.

As indicated above, a trend is shown in which the average marks for athletic self - efficacy lessen as the academic year increases. On the other hand, no such trend is shown throughout the academic years for scholastic self - efficacy. Below, we compared these results with K University. While higher values were shown for scholastic self - efficacy than athletic self - efficacy in first and second - year students at K University, differing results were shown at O University. Thus, no similar trends were seen in the average marks for athletic and scholastic self

- efficacy at K University and O University.

The correlation of average marks for athletic and scholastic self - efficacy in each academic year are shown in <Figures 7 - 10>.

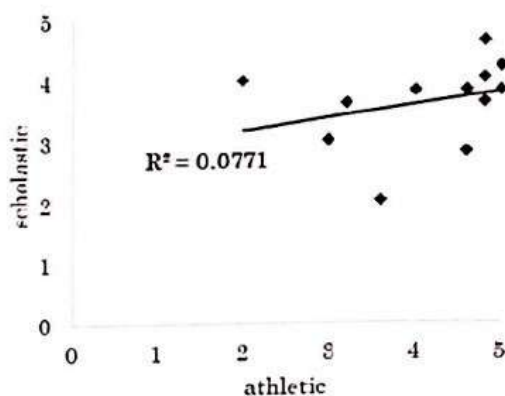


Figure 7. The correlation of average marks for athletic and scholastic self - efficacy (first - year student)

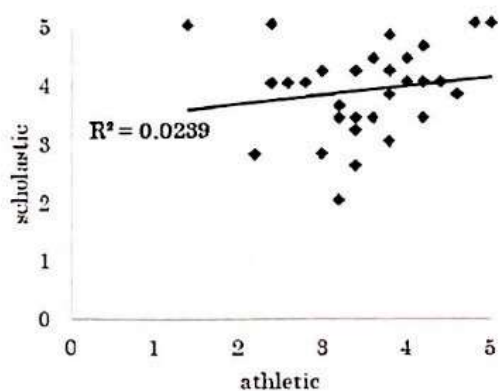


Figure 8. The correlation of average marks for athletic and scholastic self - efficacy (second - year student)

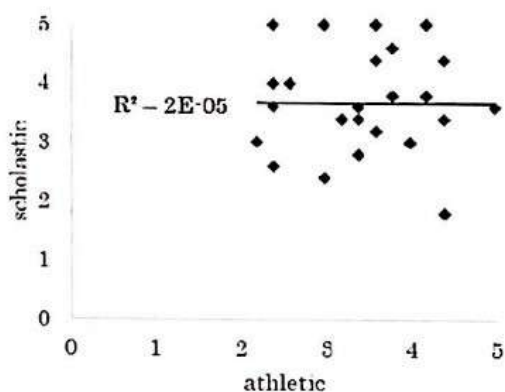


Figure 9. The correlation of average marks for athletic and scholastic self - efficacy (third - year student)



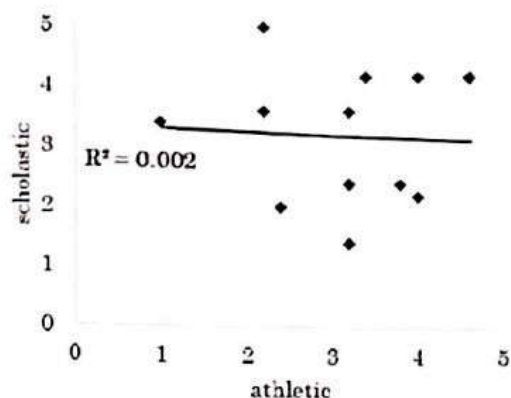


Figure 10. The correlation of average marks for athletic and scholastic self - efficacy (fourth - year student)

Correlation analysis was performed to see the relevance of athletic and scholastic self - efficacy in each academic year. Consequently, no correlation was established between the average marks for athletic and scholastic self - efficacy in first - year students ( $r = 0.28$ ). No correlation was established between the average marks for academic and scholastic self - efficacy in second - year students ( $r = 0.15$ ). No correlation was established between the average marks for athletic and scholastic self - efficacy in third - year students ( $r = 0.00$ ). No correlation was established between the average marks for athletic and scholastic self - efficacy in fourth - year students ( $r = 0.05$ ).

We compared the above results with K University, and they are shown below. Positive correlations were established between the athletic and scholastic self - efficacy of first and second - year students at K University. These correlations were not established then for third and fourth - year students. While none of these correlations were established in any of the academic years at O University, a trend was shown in which the correlation lessens as the academic year increases. Therefore, it is conceivable that the same trend, in which the correlation between athletic and scholastic self - efficacy lessens as the academic year increases, is shown in both universities. As a factor for this trend, the high school era of self - efficacy is strongly reflected in first - year students who have just entered university. It is then conceivable that as the academic year increases, one's self - efficacy is individually reconstructed in an environment with a higher level of competition or academics compared to when in high school. The competitive level of football in both universities is high in Japan. There are 114 team members

at K University and 81 at O University, from which 11 players are selected to play in regular matches. When fourth - year students graduate, new first - year students then enter the club. Players repeat this cycle every four years. Even if a first - year student is not selected as one of the 11 players, it is still possible to place one's hope of being selected over the remaining three years. However, it is presumably difficult for those who have not been selected as one of the 11 players by their third or fourth year to maintain a high athletic self - efficacy. On the other hand, given the fact that no correlation was indicated with scholastic self - efficacy even when a third or fourth - year student's athletic self - efficacy had decreased, it is conceivable that not being selected as one of the 11 players does not affect one's scholastic self - efficacy.

From all the results of this study, low values were shown in the athletic and scholastic self - efficacy of O University football club players in comparison to K University, while athletic self - efficacy values were shown to be higher than those of ordinary students. It is therefore conceivable that by belonging to a university football team, one can attain an athletic self - efficacy. When compared to K University, a trend was shown in O University in which one's athletic self - efficacy reduces as the academic year increases. In conjunction with this, a decreasing trend is also shown in the correlation of athletic and scholastic self - efficacy as the academic year increases. This is presumably due to the decrease in athletic self - efficacy in third and fourth - year students who are unable to participate in matches.

## Conclusion

In this study, we attempted to analyse the relationship between athletic and scholastic self - efficacy to achieve athletic and scholastic abilities. These results are shown in the following three points.

1. The average marks of the athletic and academic self - efficacy of first and second - year students were high and indicated thus that a correlation can be easily shown. Since football players who were active during high school and managed excellent grades in academics are highly likely to enter university, it is conceivable that these high school experiences greatly influenced the values of their athletic and academic self - efficacy.

2. The athletic self - efficacy values of third and fourth



- year students were lower than those when first entering university, if they were not selected to be among the 11 players chosen out of the many members.

3. From the trend indicated in the second conclusion, the maintenance of athletic self - efficacy, an essential element for achieving scholastic and athletic abilities, is a difficult environment for third and fourth - year students. Due to this environment, it was considered difficult for many players to continue to maintain their scholastic and athletic abilities up to graduation.

## Future subject

In this study, we attempted to analyses the relationship between athletic and scholastic self - efficacy. In the future, it is considered essential to analyses the relationship between each efficacy and sense of accomplishment.

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