

**Article**

# Visualization of post-athlete status database

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**Abstract:** Secondary careers for athletes have become an important issue in recent years. Athletes who have devoted their entire lives to competition often have concerns about their future once they step away from that environment. Top athletes, particularly those who compete in the Olympics, are selected among athletes and admired as role models not only in competition but also outside of competition, and even after retirement. However, even if they make it to the ranks of professionals and Olympians, competition-related jobs are said to be saturated, and post-retirement careers are becoming an issue.

Various support measures have been implemented, but this problem has not yet been solved.

Athletes stand on a complex interplay of variables such as competition type, category, team, association, sponsors, management, achievements, gender, personality, age, recognition, story, annual salary, and assets as examples of variables that influence an athlete's career. In Japan, a survey of Olympians' careers was performed in 2014; however, it has not been performed since then. It has been suggested, but not proven, that professional athletes, including baseball players, are more likely to lead miserable lives after retirement owing to personal bankruptcy. The reality of the situation is not clear, because it is the subject of much admiration. Based on the hypothesis that visualization based on actual data is the most effective countermeasure for athletes' second careers, we collected the most accurate data possible and constructed a database. The database was then used by artificial intelligence to predict the future. It then classified them according to grades and visualized them accordingly.

**Keywords:** Support for athletes, Support Applications, and databases.

## INTRODUCTION

Only a handful of top athletes are able to continue to influence people.

Researchers have been interested in how athletes' career transitions are affected by (1) and (2), as follows:

The terms "athletic life" and "second career" seem to imply that an athlete's career or life is one-dimensional, but an athlete's career is truly diverse, depending on the athlete's competitiveness, age, annual salary, assets, and personal attitude.

Getting a job is difficult for athletes. The "Survey on the Career Status of Olympians" (3) also shows the dire situation.

The annual expenses of athletes who competed in the Olympics were JPY 2, 062, 000 for men in summer (JPY 2,454,000 in winter) and JPY 2, 507, 000 for women (JPY 4, 609, 000 in winter).

In contrast to this investment, the largest number of retirees have annual incomes of "less than 3-4.5 million yen".

Only 55.7% were employed full-time and more than 20% of the former players lived a second life as temporary or part-time workers.

The average retirement age is 31.1 for men and 26.9 for women. Second, future careers are longer.

Several of them hope to remain with their athletic organizations in some capacity after retiring, such as an official or strengthening staff member, but only approximately 30% of them remain with their organizations.

No organization such as the National Collegiate Athletic Association (NCAA) exists that funds TV broadcasting rights fees or other funds for university scholarships and second careers in Japan. No such surveys have been performed since 2014.

Much has been said about how to get into the Olympics and win, but not much has actually been said about how to live after getting out.

In 2009, Sports Illustrated reported that 60% of NBA players went bankrupt within five years of retirement. In addition, 78% of NFL players go

bankrupt or become financially distressed within two years of retirement.

The Nippon Professional Baseball Organization (NPB) annually publishes the results of a survey on second careers for active young professional baseball players.

According to the survey results, approximately 40% of the athletes said they had not thought about a second career.

Although this is a problem in numerous ways, it is no exaggeration to say that it remains untouched.

## PURPOSE

Based on the hypothesis that visualization based on actual data is the most effective way to counteract athletes' second careers, we collected the most accurate data possible and constructed a database. The database was then used by artificial intelligence (AI) to predict the future. The future was classified according to grade and visualized.

Athletes stand on a complex interplay of variables such as competition type, category, team, association, sponsors, management, achievements, gender, personality, age, recognition, story, annual salary, and assets as examples of variables that influence an athlete's career.

In this study, taking advantage of the author's position as a Japanese National Team Coach (wrestling), data on career paths, including athletic performance and educational background, were collected to the extent possible.

In Step 2, data are collected simultaneously through an application that allows active and post-athletes to view information but requires them to enter their own information. In Step 3, AI predicts the future based on the collected data and visualizes the future, classified by grade. Athletes can predict the future to some extent, which we believe will help solve the second career problem (Figure 1).

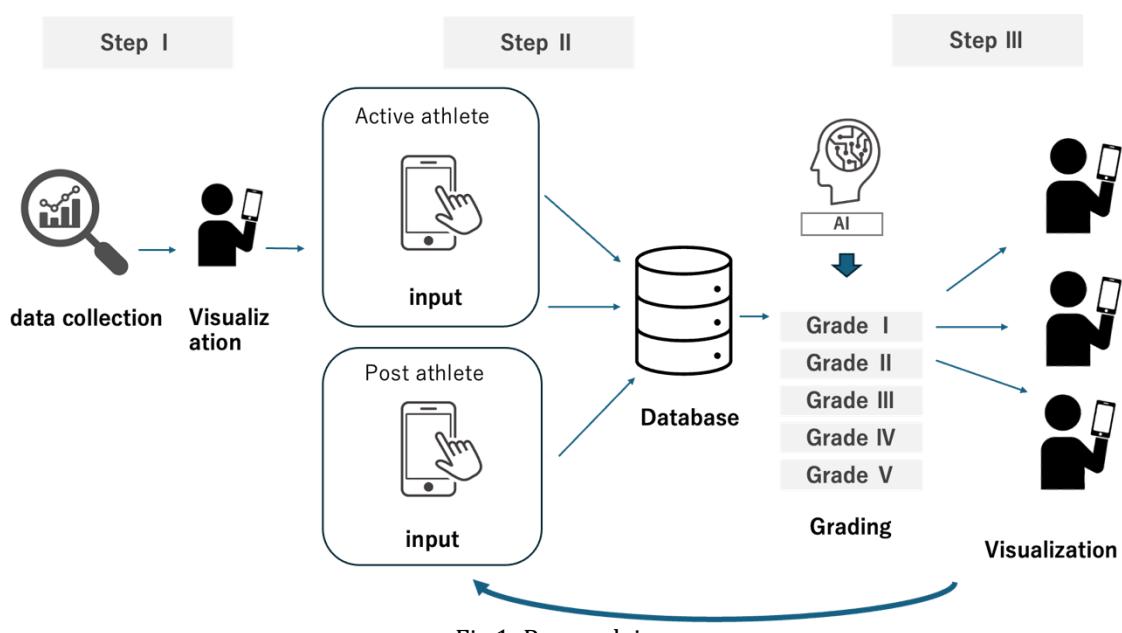


Fig.1: Research image

## METHODS

### 【Step 1】

#### About the data collected

The data collected in this study included 74 Japanese national team athletes for the London 2012 Olympic Games five years later (Fig: 2), the final educational background of 410 Japanese medalists for the Athens 2004–Tokyo 2020 Olympic Games (Fig: 3), and the current employment status of 56 Japanese national team athletes for the Athens 2004–Paris 2024 Olympic Games wrestling in 2025 (Fig: 4). The current employment status of the 56 Japanese national team athletes in 2025 (Fig: 4).

## Occupations of London Olympians after 5 years

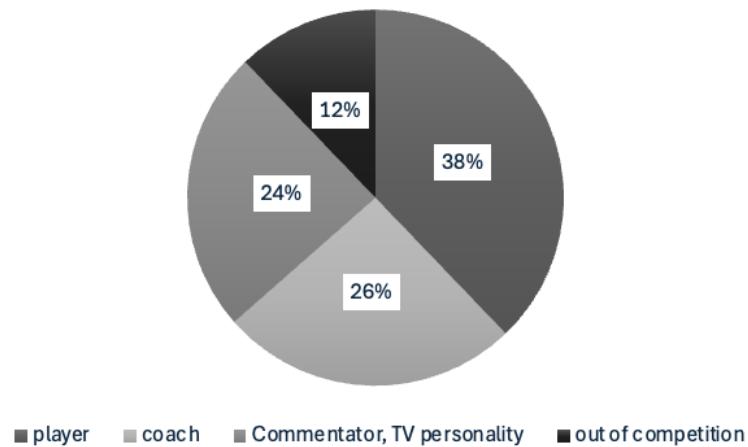


Fig.2: Occupations of Japanese athletes representing Japan at the London Olympics five years later

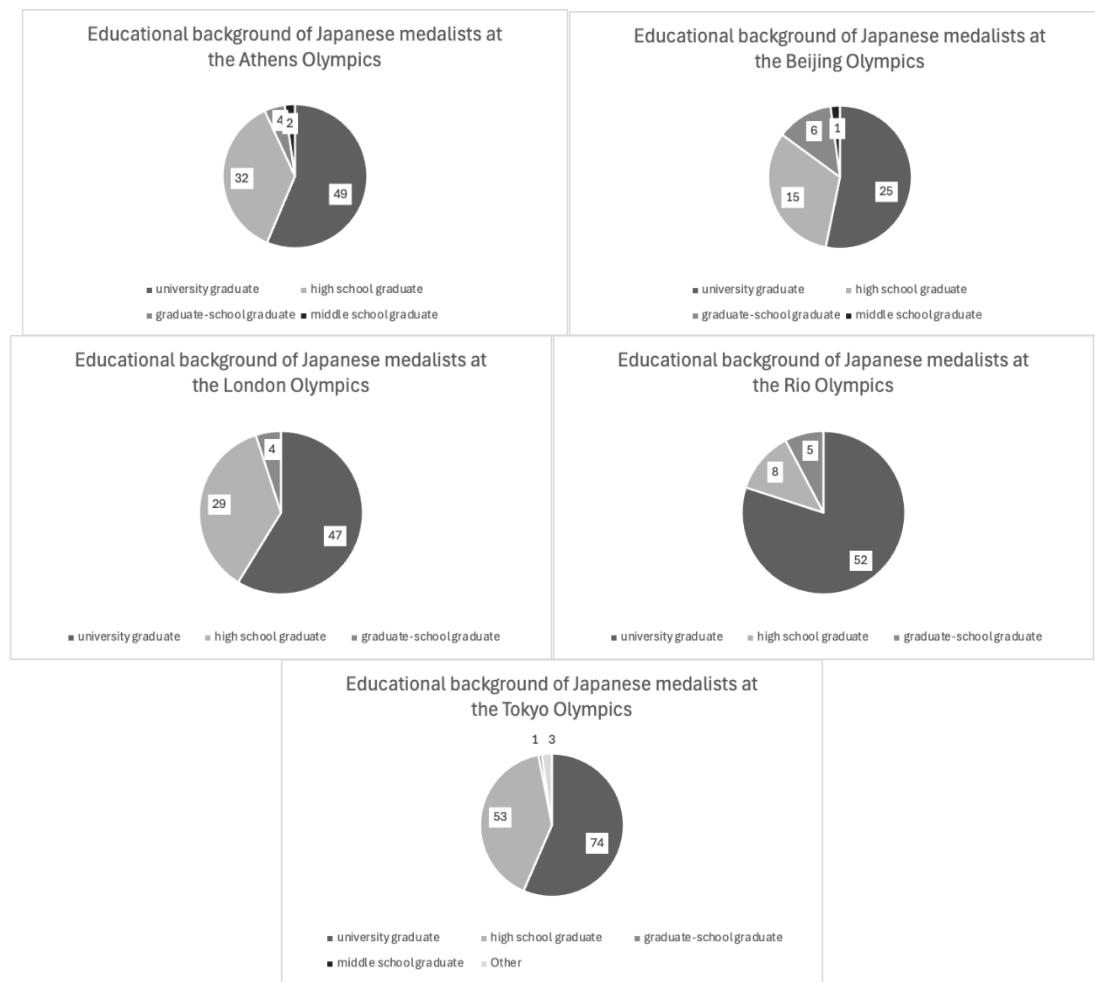


Fig.3: Final education of Japanese medalists from the 2004 Athens Olympics to the 2020 Tokyo Olympics

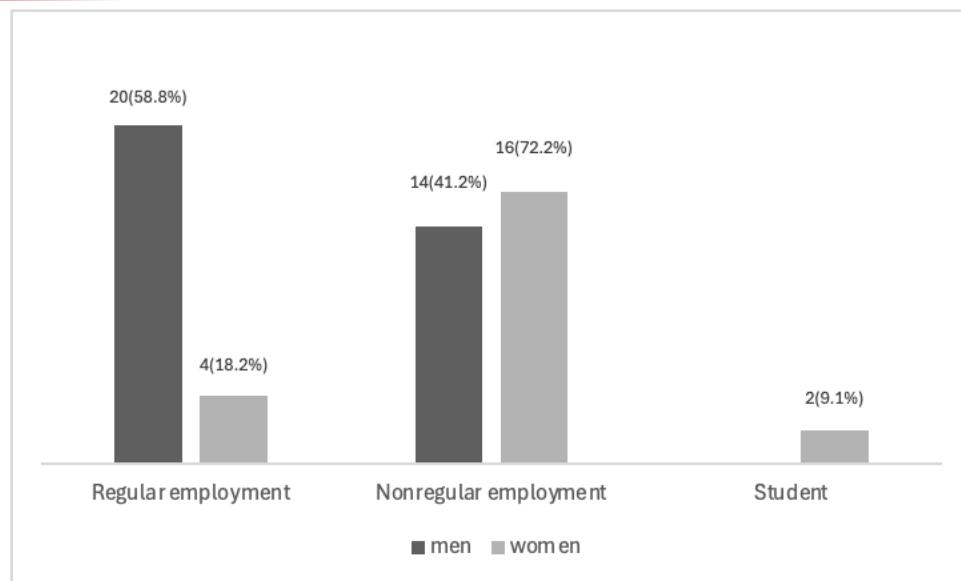


Fig.4: Employment status of Japanese Olympic wrestling athletes from the 2004 Athens Olympics to the 2024 Paris Olympics as of 2025

#### 【Step 2】

Although limited at this stage, information can be viewed by active athletes and post-athletes (Figure 5), who must enter their own information (Figure 6) to view the information and collect data simultaneously.

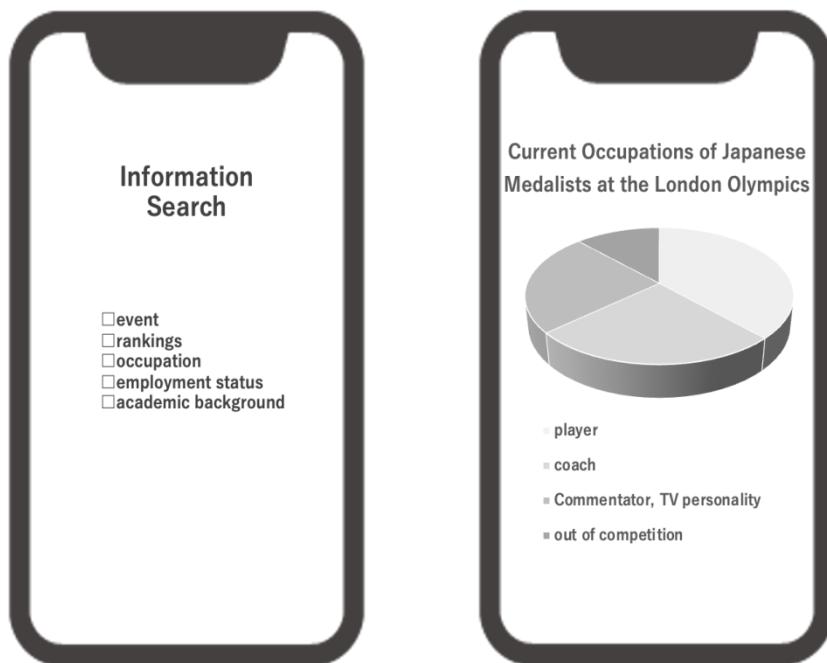


Fig.5: Information search screen

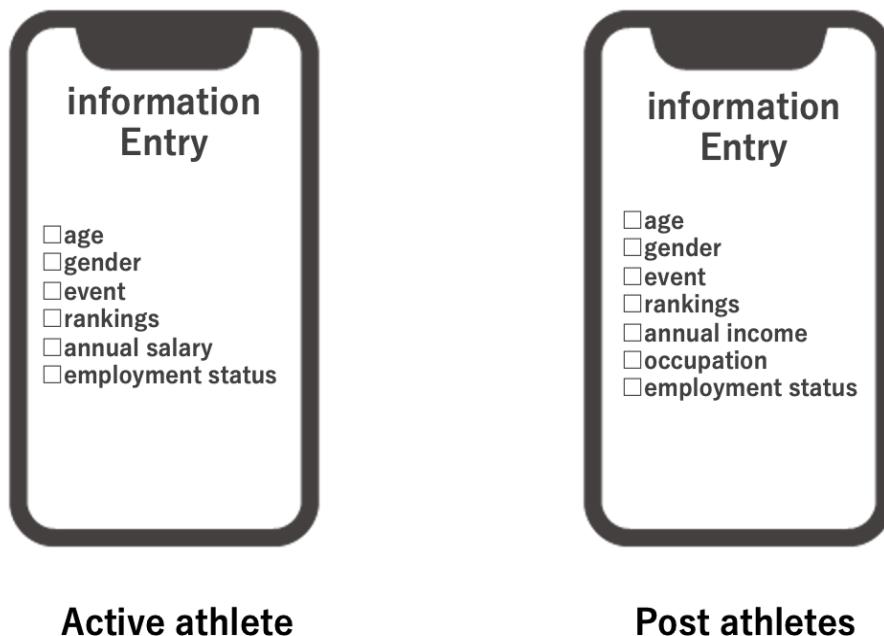


Fig.6: Information input screen

### 【Step 3】

Based on the collected data, AI will predict and visualize the future 5, 10, 15, 20, 25, and 30 years from now. At that time, the data were classified into grades I-V.

The highest grade was Grade I, which was a politician, followed by Grade II, which was a manager, Grade III, a company employee, Grade IV, a part-time worker, and the lowest grade is Grade V, unemployed.

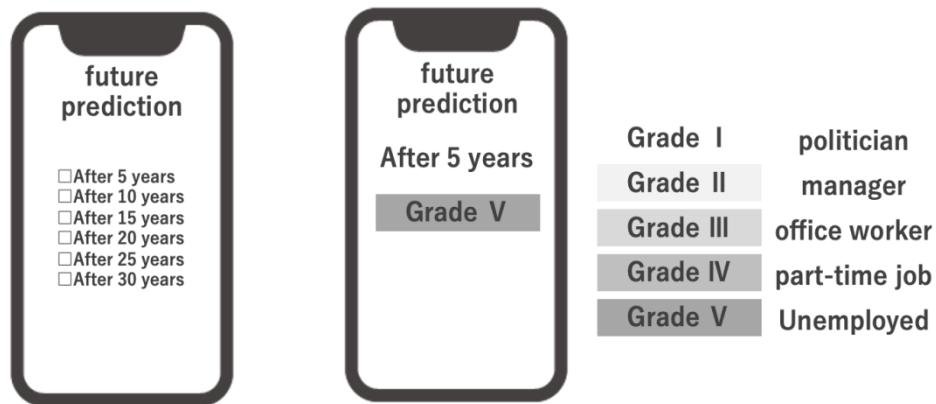


Fig.7: Future forecast application screen

## DISCUSSION

In an earlier survey, "Survey on the Career Status of Olympians" (Sasakawa Sports Foundation = 2014), it was reported that most of them wish to remain with their athletic organizations in some form after retirement, such as officials or strengthening staff, but only approximately 30% of them actually managed to remain with their organizations.

A survey of 74 athletes at the London Olympics this time around yielded comparable results.

Furthermore, the same survey reported that approximately half of the retired athletes were in non-regular employment. This survey of 56 Japanese

national wrestling team members from the Athens Olympics to the Paris Olympics exhibited similar results, revealing a particularly high rate of non-regular employment among women.

The final educational backgrounds of Japanese medalists from the Athens Olympics to the Tokyo Olympics were mostly college graduates, but also a certain number of high school graduates were present. This may be because several of the sports in which professional and industrial teams thrive, such as baseball, soccer, and softball, have numerous high school graduates.

Although the results of this survey are similar to

those of previous surveys, only one survey was present on the careers of Olympians in Japan, performed in 2014. It is necessary to continue collecting data to clarify the actual situation and to build a database that will be useful for athletes' second careers.

### Summary, future issues

Only a handful of athletes remain in the sports industry after retirement as a second career.

After retirement, most athletes selected a career that differed from that of their sport. Although some may work in fitness gyms or physical exercise jobs, those who stay with their teams or athletic organizations and work in athletics, and those who can work in media relations or as commentators have a limited pool of talent.

The choice of a second career depends on the interests, abilities, experience, and education of the individual athlete, but currently such career coaching and learning environments available are few.

Moreover, in Japan, little information sharing regarding second careers is present, because of the strong vertical organization of each sporting event.

Previous literature on career transitions for elite athletes reveals that among the numerous possible effects athletes may experience post-career, only a few have revealed positive outcomes (4)(5)(6).

The second career is an important stage in athletes' pursuit of self-fulfillment and financial stability after retirement.

In fact, not much is said about the retirement of top athletes at the level of Olympic involvement, and information is limited.

In Japan, only one survey on Olympians' careers was performed in 2014. It is safe to say that the second career of Olympians, which is the dream of athletes, is unclear.

However, technology has recently been used to collect large amounts of data.

Visualization of this information would be useful for second-career education of top athletes.

Currently, the data are limited, and numerous issues exist to be addressed in the future, such as data collection. In the future, we would like to proceed with the implementation of the applications proposed in this study while continuing to collect data and enhance their practicality through experiments and evaluations.

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