



Prevalence of Use of Sports Trainer Services in Japanese High Schools: A Nationwide Survey

Yosuke Shibata^{1*}, Yasunari Kurita^{1,2}, Kaho Morishita^{1,3}, Toshiyuki Ojima¹

¹ Hamamatsu University School of Medicine, Hamamatsu, Japan

² Tokoha University, Shizuoka, Japan

³ Seirei Health Care Division, Hamamatsu, Japan



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ABSTRACT

Objective: Sports trainers contribute to the safety of adolescent athletes. The status of sports trainer services (STS) that use a trainer-certified system and trainer perceptions differ among countries, and reports from different countries are needed to promote the global use of STS. This study aimed to determine the prevalence of STS and the reasons for its use in Japanese high schools. **Method:** A cross-sectional study was conducted in 2022. Participants were all club activity coaches from all high schools (around 70,000 coaches) in Japan. The primary outcome was the prevalence of STS use. We obtained information on the payment status when STS was used and the reasons they were not. **Results:** Of the 6045 coaches included, 10.5% used STS. Volunteer trainers comprised 29.9%, and if they were paid a fee, it needed to be more for a living. The most common reason for not using STS was "no suitable person" (70.8%). **Novelty:** This was the first large-scale survey of the prevalence of STS use in Japanese high schools. The prevalence of STS use in Japanese high schools was low.

INTRODUCTION

Sports participation is common among adolescents. Globally, 47.0%–53.0% of adolescents participate in sports (Aubert et al., 2022). However, injuries often occur in sports (Japan Sport Council, 2023; Prieto-González et al., 2021), with approximately 57.0% of injuries in Japanese high schools occurring in sports clubs. Prevention and coping with sports injuries are essential issues in schools.

In Japan, sports trainers are attracting attention because of their ability to contribute to the safety of adolescent athletes. Sports trainers can provide first aid and appropriate rehabilitation and injury prevention exercise programs. There are several types of sports trainers, including athletic trainers, who mainly provide first aid and rehabilitation (Hirschhorn et al., 2023), and strength trainers, who mainly provide strength training and help improve movement using resistance exercise (National Strength and Conditioning Association).

In some countries, such as the United States and Canada, athletic trainers are regarded as quasi-medical qualifications. In the United States, to become an athletic trainer, they must graduate with a master's degree and pass a comprehensive test at the National Athletic Trainers' Association, b) Athletic trainer is a well-established profession (Lacy et al., 2023), c) and employed in approximately 66.0% of high schools (Huggins et al., 2019). In Canada, athletic trainers must complete the bachelor's degree and athletic therapy program at Canadian Athletic Therapists Association –accredited institution. There is no national qualification for athletic trainers in Japan, but the Japan Sports Association certifies an athletic trainer. To become an athletic trainer, they must have

completed a training course, vocational school, or equivalent and pass a written and practical examination (Japan Sports Association). Strength training is not a national qualification. Thus, the trainer-certified system and perceptions regarding sports trainers vary among countries (Li et al., 2019; Rowe, 2023), and reports from different countries are required to promote the global use of sports trainer services (STSs).

Although many previous studies of STSs have been conducted in the United States (Hernandez et al., 2024), the prevalence of STS use in many countries currently needs to be discovered. Only two previous studies have reported the prevalence of STS use in Japanese high schools, reporting rates of 9.1% (Nakamura et al., 2003) and 32.2% (Ishigooka et al., 2017). Moreover, the information is not up-to-date, and the locations are limited, making it difficult to determine the current status of STS. Another study was conducted in 2013, covering 30 prefectures in Japan. However, the participants were from baseball, soccer, or basketball clubs, which frequently use STS in Japan (Izumi et al., 2020); thus, the prevalence of STS use was overestimated. Therefore, the research question of the current study is to determine the prevalence of STS use and the reasons for its use in Japanese high schools.

RESEARCH METHOD

Study design

This cross-sectional study was conducted in Japan in 2022. The Ethical Review Committee of Hamamatsu University School of Medicine approved this study (approval number 22-131).

Participants

The survey participants were club activity coaches from 5,007 high schools in Japan. Approximately 94.0% of high school teachers in Japan are club activity coaches. The inclusion criterion was sports club coaching, and the exclusion criterion was being on leave.

Data collection

We sent some cooperation letters containing the URL and QR code of the survey response website to all high schools for distribution to their coaches. We obtained the high school addresses from the latest school codes (as of 1st May 2022) published on Japan's Ministry of Education, Culture, Sports, Science and Technology website. The online questionnaire service provider, Formrun (Basic Inc., Tokyo, Japan), was employed to collect data from coaches who responded online between 28th November and 20th December 2022. However, questionnaires sent to 19 high schools were returned because of unknown addresses. The participants were informed of the benefits and risks of the study via a cooperation letter and an online page before responding. Informed consent was obtained from all participants.

Measurements

The primary outcome was the prevalence of STS use. The question asked was, 'Do you use STSs?' with 'yes' or 'no' as a response. When the response was 'yes,' information on the number of trainers used (numeric answer), payment status (frequency and amount of money), the method used to choose a sports trainer (multiple answers allowed), and reason for use (one choice selected from four options for eight questions) were obtained.

The reason (one choice from four options for three questions) was obtained when the response was 'no.'

We collected data on the characteristics of high schools, clubs, and coaches. High school information included the area (1 of the 47 prefectures), establishment (public or private), and number of students enrolled (numeric answers). Club information included the athlete number (numeric answer), athlete sex (male, female, or both), sport type (choice of 1 from the 58 types or a free answer), activity (frequency and time on weekdays and weekends), and aim (choice of 1 from 4 options). The coach information included sex (male or female), age (numeric answer), teaching career (numeric answer), and teaching license (choice of 1 from 30 licenses or free answers). The researchers and sports trainers decided on the questions and answer options used.

Analysis

We calculated the proportion of STSs used based on the above characteristics. Descriptive statistics for subsequent questions are shown for participants who did or did not use STSs. We divided the prefecture data into seven categories. Less than 10 clubs were classified as 'other sports.' We categorized the teaching license data into health and physical education and others. We conducted the analyses using SPSS; $P < 0.05$ indicated statistical significance.

RESULTS AND DISCUSSION

Results

The research question for this study is to determine the prevalence of STS use and the reasons for its use in Japanese high schools. 6,045 sports club coaches responded to the survey (Figure 1). Public high schools accounted for 81.7% (4,936/6,045) of the schools, and the sport types included basketball (11.4%, 690/6,045), volleyball (9.5%, 572/6,045), and baseball (8.3%, 500/6,045). Male coaches comprised 82.7% (5,002/6,045) of the participants, and the mean age (standard deviation) of the coaches was 39.6 (11.2) years.

The prevalence of STS use in Japanese high schools was 10.5% (632/6,045) (Table 1). Regarding high school information, private schools and large student enrolment were associated with STS use. For club information, those comprising many athletes, male athletes, frequent activity, and high aims were associated with STSs use. Regarding coach information, male sex and health and physical education licences were associated with STSs use.

The status of clubs using STSs is presented in Table 2. Only one trainer was available for 81.2% of the participants (513/632). The percentage of male trainers was 88.9% (559/629). Volunteer trainers accounted for 29.9% (189/632). Even when they were paid fee, the median (25th percentile, 75th percentile) was 10,000 yen per time, 30,000 yen per month and 100,000 yen per year. Their fees were insufficient to cover the costs of living. Regarding the method used to choose a sports trainer, 'asked a coach's friend' and 'handover from a previous coach' accounted for approximately 80.0% of responses. The main purposes were 'injury prevention', 'improve physical fitness', and 'first aid'.

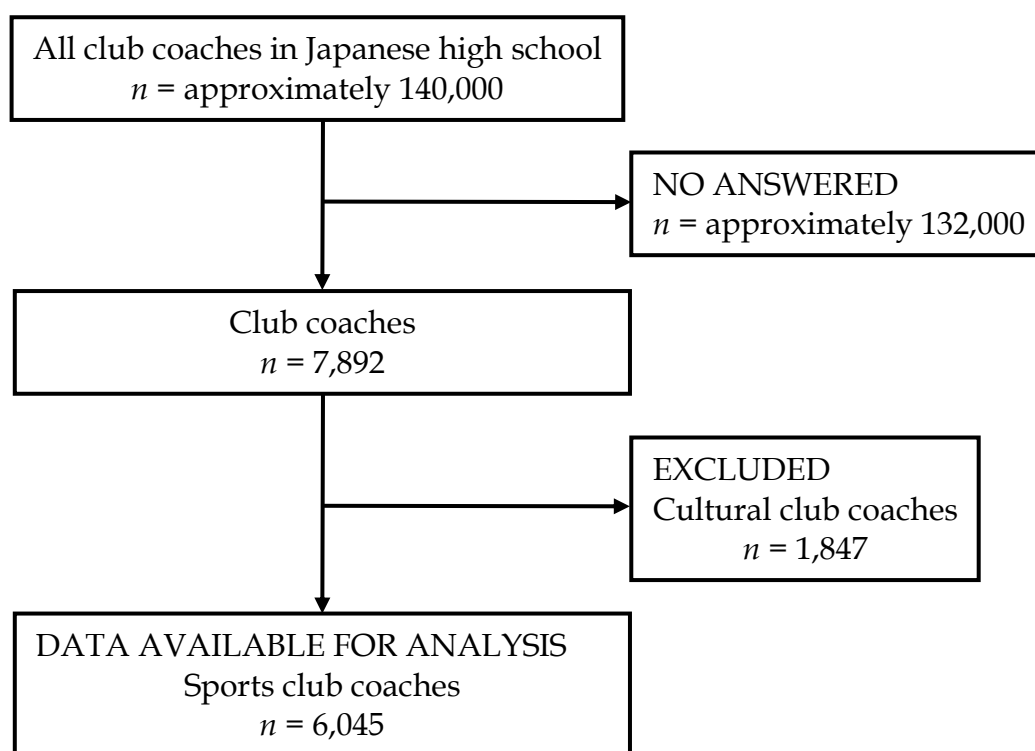


Figure 1. Flowchart.

Table 1. Participant Characteristics (n = 6,045).

Characteristics	No. (%)				Prevalence of STSs Use	P-value
	Using STSs (n = 632)		Not Using STSs (n = 5,413)			
High School						
Area						
Hokkaido	31	(4.9)	304	(5.6)	9.3	0.22
Tohoku	99	(15.7)	778	(14.4)	11.3	
Kanto	136	(21.5)	1,261	(23.3)	9.7	
Chubu	135	(21.4)	1,275	(23.6)	9.6	
Kinki	59	(9.3)	550	(10.2)	9.7	
Chugoku/Shikoku	79	(12.5)	540	(10.0)	12.8	
Kyushu	93	(14.7)	705	(13.0)	11.7	
Establishment						
Public	425	(67.2)	4,511	(83.3)	8.6	< 0.01
Private	207	(32.8)	902	(16.7)	18.7	
Enrolment						
< 500	145	(22.9)	2,154	(39.8)	6.3	< 0.01
500–1000	328	(51.9)	2,564	(47.4)	11.3	
≥ 1000	159	(25.2)	695	(12.8)	18.6	
Club						
Athlete No.^b						
< 10	45	(7.1)	1,987	(36.7)	2.2	< 0.01
10–20	188	(29.7)	1,895	(35.0)	9.0	
≥ 20	399	(63.1)	1,531	(28.3)	20.7	
Athlete Sex						
Male	336	(53.2)	1,848	(34.1)	15.4	< 0.01
Female	122	(19.3)	1,208	(22.3)	9.2	

Characteristics	No. (%)				Prevalence of STSs Use	P-value
	Using STSs (n = 632)		Not Using STSs (n = 5,413)			
Both	174	(27.5)	2,357	(43.5)	6.9	
Sport Type						
Basketball	95	(15.0)	595	(11.0)	13.8	< 0.01
Volleyball	49	(7.8)	523	(9.7)	8.6	
Baseball	168	(26.6)	332	(6.1)	33.6	
Badminton	15	(2.4)	443	(8.2)	3.3	
Athletics	42	(6.6)	406	(7.5)	9.4	
Football	87	(13.8)	327	(6.0)	21.0	
Table tennis	8	(1.3)	396	(7.3)	2.0	
Soft tennis	18	(2.8)	382	(7.1)	4.5	
Tennis	7	(1.1)	287	(5.3)	2.4	
Kendo	11	(1.7)	243	(4.5)	4.3	
Kyudo	1	(0.2)	232	(4.3)	0.4	
Handball	23	(3.6)	140	(2.6)	14.1	
Swimming	6	(0.9)	133	(2.5)	4.3	
Softball	15	(2.4)	115	(2.1)	11.5	
Judo	6	(0.9)	113	(2.1)	5.0	
Dance	1	(0.2)	99	(1.8)	1.0	
Rugby	33	(5.2)	46	(0.8)	41.8	
Mountaineering	0	(0)	67	(1.2)	0	
Rubber baseball	2	(0.3)	53	(1.0)	3.6	
Karate	3	(0.5)	48	(0.9)	5.9	
Rowing	2	(0.3)	27	(0.5)	6.9	
Gymnastics	2	(0.3)	26	(0.5)	7.1	
Wrestling	2	(0.3)	23	(0.4)	8.0	
Skiing	3	(0.5)	21	(0.4)	12.5	
Rhythmic gymnastics	1	(0.2)	23	(0.4)	4.2	
Archery	1	(0.2)	22	(0.4)	4.3	
Weightlifting	2	(0.3)	19	(0.4)	9.5	
Sumo	2	(0.3)	15	(0.3)	11.8	
Cheerleading	1	(0.2)	15	(0.3)	6.3	
Fencing	2	(0.3)	14	(0.3)	12.5	
Boxing	3	(0.5)	12	(0.2)	20.0	
Shorinji Kempo	0	(0)	15	(0.3)	0	
Bicycle	0	(0)	14	(0.3)	0	
Field hockey	4	(0.6)	9	(0.2)	30.8	
Golf	0	(0)	13	(0.2)	0	
Canoeing	2	(0.3)	11	(0.2)	15.4	
Song leading	1	(0.2)	11	(0.2)	8.3	
Baton twirling	0	(0)	10	(0.2)	0	
Shooting	0	(0)	10	(0.2)	0	
Water polo	0	(0)	10	(0.2)	0	
Naginata	0	(0)	10	(0.2)	0	
Others	14	(2.2)	103	(1.9)	12.0	
Activity						
Weekday						
Frequency						
0 times/week	1	(0.2)	46	(0.8)	2.1	< 0.01

Characteristics	No. (%)				Prevalence of STSs Use	P-value
	Using STSs (n = 632)		Not Using STSs (n = 5,413)			
1 time/week	1	(0.2)	82	(1.5)	1.2	
2 times/week	1	(0.2)	164	(3.0)	0.6	
3 times/week	21	(3.3)	567	(10.5)	3.6	
4 times/week	367	(58.1)	3,020	(55.8)	10.8	
5 times/week	240	(38.0)	1,515	(28.0)	13.7	
Irregularly	1	(0.2)	18	(0.3)	5.3	
Unknown	0	(0)	1	(< 0.1)	0	
Timed						
< 1 h/week	2	(0.3)	54	(1.0)	3.6	< 0.01
1–2 h/week	34	(5.4)	1,015	(18.8)	3.2	
2–3 h/week	316	(50.0)	3,565	(65.9)	8.1	
≥ 3 h/week	280	(44.3)	779	(14.4)	26.4	
Weekend						
Frequency						
0 times/week	5	(0.8)	413	(7.6)	1.2	< 0.01
1 time/week	157	(24.8)	3,461	(63.9)	4.3	
2 times/week	467	(73.9)	1,384	(25.6)	25.2	
Irregularly	3	(0.5)	59	(1.1)	4.8	
Only match	0	(0)	93	(1.7)	0	
Unknown	0	(0)	3	(0.1)	0	
Time						
< 1 h/week	3	(0.5)	391	(7.2)	0.8	< 0.01
1–2 h/week	1	(0.2)	54	(1.0)	1.8	
2–3 h/week	61	(9.7)	782	(14.4)	7.2	
3–4 h/week	228	(36.1)	2,756	(50.9)	7.6	
≥ 4 h/week	339	(53.6)	1,430	(26.4)	19.2	
Aim						
National competition quarter-final	137	(21.7)	297	(5.5)	31.6	< 0.01
National competition participation	260	(41.1)	862	(15.9)	23.2	
Prefectural competition quarter-final	147	(23.3)	1,547	(28.6)	8.7	
Prefectural competition participation	57	(9.0)	1,868	(34.5)	3.0	
Others	31	(4.9)	839	(15.5)	3.6	
Coach						
Sex						
Male	577	(91.3)	4,425	(81.7)	11.5	< 0.01
Female	55	(8.7)	988	(18.3)	5.3	
Age (years)						
20–29	78	(12.3)	1,276	(23.6)	5.8	< 0.01
30–39	224	(35.4)	1,717	(31.7)	11.5	
40–49	191	(30.2)	1,183	(21.9)	13.9	
50–59	113	(17.9)	993	(18.3)	10.2	
≥ 60	26	(4.1)	244	(4.5)	9.6	
Teaching Career						

Characteristics	No. (%)				Prevalence of STSs Use	P-value
	Using STSs (n = 632)		Not Using STSs (n = 5,413)			
< 10 years	161	(25.5)	2,116	(39.1)	7.1	< 0.01
10–20 years	225	(35.6)	1,471	(27.2)	13.3	
20–30 years	150	(23.7)	1,000	(18.5)	13.0	
≥ 30 years	96	(15.2)	826	(15.3)	10.4	
Teaching Licence						
Health and physical education	324	(51.3)	1,260	(23.3)	20.5	< 0.01
Others	308	(48.7)	4,153	(76.7)	6.9	

Abbreviations: STSs, sports trainer services; SD, standard deviation.

^a Mean ± SD were 618.7 ± 414.3 and 779.7 ± 514.5 for using and not using STSs, respectively (P < 0.01)

^b Mean ± SD were 16.2 ± 17.7 and 31.1 ± 27.3 for using and not using STSs, respectively (P < 0.01)

^c Mean ± SD were 4.0 ± 0.9 and 4.3 ± 0.6 for using and not using STSs, respectively (P < 0.01)

^d Mean ± SD were 2.1 ± 0.6 and 2.7 ± 0.7 for using and not using STSs, respectively (P < 0.01)

^e Mean ± SD were 1.2 ± 0.6 and 1.7 ± 0.5 for using and not using STSs, respectively (P < 0.01)

^f Mean ± SD were 3.3 ± 1.9 and 4.4 ± 2.0 for using and not using STSs, respectively (P < 0.01)

^g Mean ± SD were 39.5 ± 11.3 and 41.3 ± 10.1 for using and not using STSs, respectively (P < 0.01)

^h Mean ± SD were 15.4 ± 11.0 and 17.1 ± 9.9 for using and not using STSs, respectively (P < 0.01)

Table 2. Status of clubs using STSs (n = 632).

Variables	No. (%)	
Using Trainer No.		
1	513	(81.2)
≥ 2	116	(18.4)
Not available	3	(0.5)
Male		
0	70	(11.1)
1	477	(75.8)
≥ 2	82	(13.0)
Female		
0	515	(81.9)
1	102	(16.2)
≥ 2	12	(1.9)
Payment		
No	189	(29.9)
Yes	443	(70.1)
Frequency		
Every time	212	(47.9)
Monthly	174	(39.3)
Annually	45	(10.2)
Irregularly	2	(0.5)
Other	7	(1.6)
Unknown	3	(0.7)
Method Used to Choose a Sports Trainer		
Asked a coach's friend	340	(53.8)
Handover from a previous coach	166	(26.3)
Graduated student	26	(4.1)
Searched for the trainer through a company or on the internet	25	(4.0)

Variables	No. (%)	
Asked a trainer from another club	25	(4.0)
Accepted a student trainer	18	(2.8)
Recommended by an athlete's parent	15	(2.4)
Offer from a trainer	7	(1.1)
Other	52	(8.2)
Unknown	2	(0.3)
Purpose		
Injury prevention		
Applicable	616	(97.5)
Not applicable	5	(0.8)
Missing	11	(1.7)
Improve physical fitness		
Applicable	535	(84.7)
Not applicable	85	(13.4)
Missing	12	(1.9)
First aid		
Applicable	502	(79.4)
Not applicable	119	(18.8)
Missing	11	(1.7)
Technical instruction		
Applicable	399	(63.1)
Not applicable	222	(35.1)
Missing	11	(1.7)
Reduce the coach's workload		
Applicable	391	(61.9)
Not applicable	230	(36.4)
Missing	11	(1.7)
Dietary guidance		
Applicable	371	(58.7)
Not applicable	249	(39.4)
Missing	12	(1.9)
Educational guidance		
Applicable	305	(48.3)
Not applicable	315	(49.8)
Missing	12	(1.9)
Handle women-specific problems		
Applicable	98	(15.5)
Not applicable	522	(82.6)

Abbreviation: STSs, Sports trainer services.

^a Answered = 0

^b Median amount (25th percentile, 75th percentile) = 10,000 (5,000, 20,000) Yen

^c Median amount (25th percentile, 75th percentile) = 30,000 (14,500, 50,000) Yen

^d Median amount (25th percentile, 75th percentile) = 100,000 (35,000, 225,000) Yen

^e Multiple answers allowed

The reasons for not using STSs are listed in Table 3. The responses 'no suitable person', 'no payment', and 'did not feel the need for use' accounted for 70.8% (3,831/5,413), 65.1% (3,522/5,413), and 40.7% (2,203/5,413) of responses, respectively.

Table 3. Reasons for Not Using STSs (n = 5,413).

Variable	No. (%)
Reason	

Variable	No. (%)	
No suitable person		
Applicable	3,831	(70.8)
Not applicable	1,565	(28.9)
Missing	17	(0.3)
No payment		
Applicable	3,522	(65.1)
Not applicable	1,875	(34.6)
Missing	16	(0.3)
Did not feel the need to		
Applicable	2,203	(40.7)
Not applicable	3,193	(59.0)
Missing	17	(0.3)

Abbreviation: STSs, Sports trainer services.

Discussion

The results of the present study demonstrated that only 10.5% of Japanese high school clubs used STSs, which is similar to the 9.2% reported in a previous study (Nakamura et al., 2003). Although a simple comparison to our present study cannot be made owing to the limited area evaluated in the previous study, these results suggest that STSs have not gained popularity even after 20 years of use in Japanese high schools. Another previous study indicated a trainer service use of 21.8% for basketball, baseball, and soccer clubs combined compared to the 32.2% reported in a previous Japanese study conducted in 2013. Female coaches and clubs with low aims are known not to use STSs. In the present study, the percentage of female coaches was 17.3% compared to the 7.6% reported previously. The percentages of responses to the aims in the current and previous studies (Ishigooka et al., 2017) were as follows: 8.4% and 11.8% for national competition quarter-finals, 21.7% and 23.6% for national competition participation, 32.7% and 43.3% for prefectural competition quarter-finals, and 37.7% and 21.3% for prefectural competition participation, respectively. Differences in the sex of the coaches and their aims may have led to these outcomes.

The current study found that STSs were more commonly used in private schools than in public schools, which is consistent with the results of previous studies conducted in Japan. However, there is an inverse relationship in the United States (Moeller & Ciecko, 2022), where the prevalence of STS use in private and public high schools in the United States was 57.5% and 70.0% (Pike et al., 2017), 39.1% and 56.7% (Moeller & Ciecko, 2022), and 47.1% and 55.4% (Post et al., 2019), respectively. Large-enrolment schools use STSs in the United States, and previous studies have shown that school enrolments were larger in public schools than in private schools. However, the current study showed the number (standard deviation) of school enrolments in private and public schools was 920 (429) and 572 (344), respectively.

Regarding club information, a high athlete number, male athletes, high activity frequency and duration, and high aim were associated with a high use of STSs. In a previous study, the mean number of athletes in schools using STSs was 384, whereas that of those who did not use STSs was 183 (Moeller & Ciecko, 2022). Another study showed that 68.2% of clubs used STSs in the first tertile of the athlete number, with the competition level being the highest; this was reduced to 31.8% in the second tertile and 0.0% in the third tertile. The prevalence of STS use according to the competition level in a previous study was 77.0% for national competition quarter-finals, 50.0% for national

competition participation, 23.0% for prefectural competition quarter-finals, and 9.0% for prefectural competition participation. Herein, the clubs that practiced more often had higher aims. Although no causal relationship could be determined, they could have practiced more frequently to achieve their goals. The relationship between club information and the STSs used was similar to that reported previously.

Regarding coach information, male sex and health and physical education licences were associated with higher STSs use. In most Japanese high schools, all teachers serve as coaches for some club, regardless of their teaching license and sports history, and males are more likely to play sports than females. These findings indicate that coaches who are familiar with sports are more likely to use STSs. Japanese high schools do not have an athletic director who oversees all clubs, as is the case in US high schools. Therefore, the use of STSs is decided by the individual coaches.

According to the status of clubs using STS, most clubs used male trainers, and there was only one trainer. In Japan, male sports trainers are often employed in clubs because 78.7% of the sports trainers are male. The number of sports trainers that athletes could access was often one, similar to that in the United States (Suzuki-Yamanaka et al., 2021). This study showed that approximately 30.0% of sports trainers were unpaid. A survey of athletic trainers certified by the Japan Sports Association reported that 21.7% (197/909) were unpaid. Considering that one-quarter of the survey respondents were professional athletes or national team trainers, it is not surprising that there were more unpaid trainers for high school clubs. This study also revealed that even if sports trainers were paid, it was insufficient to cover the costs of living. The median annual income in Japan is 4.23 million yen (Ministry of Health & Labour and Welfare, 2023); three-quarters of sports trainers, including those for professional athletes and national teams, are paid less than that (Japan Sport Association, 2018). This finding is consistent with that of the present study, in that only a few people earned a living as sports trainers in Japanese high schools. Approximately half (Suzuki-Yamanaka et al., 2021) to one-third of trainers in the United States are employed full-time (Moeller & Ciecko, 2022). In Japan, full-time sports trainers in high schools were first employed in 2005 (Waseda Jitsugyo High School, 2023); to the best of our knowledge, this number has not increased since then.

For clubs that did not use STSs, the most common reason was the absence of a suitable person. In Japan, there are no national qualifications for sports trainers, and people with national medical qualifications often become sports trainers. The percentage of sports trainers with national medical qualifications as acupuncturists, physiotherapists, masseurs, and judo therapists is 33.2%, 23.3%, 18.6%, and 18.3%, respectively (Japan Sport Association, 2018). Regarding the method of acquisition of a sports trainer, the most common response (53.8%) was asking a friend of a coach, whereas only 4.0% searched for a trainer through a company or on the Internet. Poor knowledge of how to find a sports trainer may have contributed to the results obtained in the present study. The second most common response was no payment. In previous studies in the US, the budget was often a barrier to AT employment (Moeller & Ciecko, 2022). Previous studies have also shown that AT is more likely to be used by students (Post et al., 2019) and communities with a higher socioeconomic status (Barter et al., 2023). In a previous study in Japan, the most common reason for not using AT services was no payment (Ishigooka et al., 2017), but this may decrease in the future. Club activities in Japan have been managed without a significant financial burden on students or parents. However, in recent years, club activities have increasingly shifted to community clubs

to reduce the burden on high school teacher coaches (Japan Sports Agency, 2023). In the next few years, the government plans to hold all club activities on holidays in community clubs and to support the funding. Consequently, there is a current perception that club activities are expensive.

A strength of this study is that it is the first large-scale survey of STSs used in Japanese high schools. There was no sample selection bias in the present study because all Japanese high schools were included. However, this study has some limitations. The response rate could not be calculated because it was impossible to determine the number of coaches in each high school who were given cooperation letters. A survey conducted by the Japan Sports Agency, involving 389 high schools nationwide with a response rate of 96.7% (376/389 schools), reported that the number of clubs per school was approximately 14 (Japan Sports Agency, 2018). Applying this statistic to the 5,007 schools included in the current study, we estimated that the number of coaches nationwide was approximately 70,000. The response rate in this study was estimated to be approximately 9.0%. However, a comparison of the backgrounds of the participants in the Japan Sports Agency survey with those in the current study suggests that there may have been little self-selection bias, as 83.9% and 75.5% of the participants were male, 41.2% and 50.5% were aged 30–39 years, and the mean duration of sports club coach careers was 14.7 and 15.6 years, respectively (Japan Sports Agency, 2018). Further, information on sports trainer types was not obtained. Athletic trainers are often the subject of study in the United States (Huggins et al., 2019; Moeller & Ciecko, 2022; Post et al., 2019). The difference in sports trainers in Japan has not yet been recognized because only a few people have used STSs. In a study of Japanese university students who experienced STSs, only 15.8% involved taping; 7.9%, strength training; 5.3%, icing; and 1.3%, warm-up. Therefore, we used the term ‘sports trainer’ in the survey because it is likely that the difference of sports trainer types is not recognised in Japan.

CONCLUSION

Fundamental Finding : Our results revealed that the prevalence of STS use in Japanese high schools was only 10.5%. **Implication :** When examining the status of clubs using STSs, most clubs had male trainers and only one trainer. For clubs that did not use STSs, the most common reason was the absence of a suitable person. **Limitation :** The response rate could not be calculated. Further, information on sports trainer types was not obtained. **Future Research :** The trainer-certified system and perceptions regarding sports trainers vary among countries, and reports from different countries are required to promote the global use of STSs.

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***Yosuke Shibata (Corresponding Author)**

Department of Community Health and Preventive Medicine,
Hamamatsu University School of Medicine,
1-20-1 Handayama, Chuo-ku, Hamamatsu, Shizuoka 431-3192, Japan
Email: shibata-yosuke@umin.ac.jp

Yasunari Kurita

Department of Shizuoka Physical Therapy, Faculty of Health Science,
Tokoha University,
1-30 Mizuochi-cho, Aoi-ku, Shizuoka, Shizuoka 420-0831, Japan
Email: ykurita@sz.tokoha-u.ac.jp

Kaho Morishita

Seirei Health Care Division,
2-35-8 Sumiyoshi, Chuo-ku, Hamamatsu, Shizuoka 430-0906, Japan
Email: kaho1234@hotmail.com

Toshiyuki Ojima

Department of Community Health and Preventive Medicine,
Hamamatsu University School of Medicine,
1-20-1 Handayama, Chuo-ku, Hamamatsu, Shizuoka 431-3192, Japan
Email: ojima@hama-med.ac.jp
