Characteristics of people with challenge using
two different sports facilities in Japan

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Abstract

The purpose of this study was to identify the levels of satisfaction and needs of the users of
sports centers that are established exclusively for people with physical challenges. Two
centers were studied: one located in Hiroshima (H) Prefecture which was established in
1996 and has many regular users, and another one located in Tokushima (T) Prefecture
which has been established in April 2006. A questionnaire survey was carried out at both
centers during the period extending from May to August 2007. It was either adminis-
tered via interview or by collecting the completed questionnaire sheets at later times. A
total of 201 valid responses were obtained, consisting of 101 responses from H Prefecture
and 100 responses from T Prefecture. In both H and T Prefectures, approximately 70% of
the respondents selected swimming and weight training as their preferred choices of
sports activities. As to the number of years during which respondents have been engaged
in sports activities, 52.5% of the respondents in H Prefecture selected "three or more
years" as their answers, and 33% of the respondents in T Prefecture selected "one or less
than a year". These results suggest that the center established only recently in T Prefec-
ture is putting much effort in promoting sports activities among physically challenged
people. The answers to the question about the reasons for using the center varied depending
on the time at which the centers had been established, with "a friend’s recommendation"
being the most common answers among the respondents in H Prefecture, and "out of own
free will" being the most common answers among the respondents in T Prefecture. Re-
spondents in both prefectures replied that they were comfortable with the intensity and
content of the sports activities available at the respective center. Respondents in H Prefec-
ture experienced more psychological benefits of sports activities than their counterparts
in T Prefecture. This could be due to the fact that respondents in H Prefecture had played
sports for longer periods of time and were therefore more comfortable with sports activi-
ties. This questionnaire survey has revealed that sports activities provide physically chal-
lenged individuals with opportunities to share their problems and talk freely about things

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that worry them with others who suffer from similar afflictions.

Key words: Sports facilities, Physical challenges, Users Satisfaction, Inquiry survey

I. Introduction

Advancement in medical technology has significantly extended the life span of the modern people as much as that of the people with challenges. However, there is a downside aspect to this story, i.e., for people with challenges prolonged life span means increased risk of secondary impairment, which is due to increased incidence of life-style related (degenerative) diseases caused by decreased amount of daily physical activity (Compton et al., 1989; Le and Price, 1972). Furthermore, paralysis of any part of the body could lead to a marked inactivity of the affected part, contributing to reduced activity in all other parts of the body. In view of this, people with physical challenges need physical activity more than their healthier counterparts (Hoffman, 1986).

Many studies have proved the benefits of regular physical activities and exercise. It is generally known that people who engage in frequent physical activity and exercise are less likely to suffer or die from such diseases as ischemic heart disease, hypertension, diabetes, obesity, osteoporosis and cancer. In addition, elderly people who have a certain amount of physical activity in their daily lives are less likely to be bed-bound or die from diseases (Hurley et al., 2000). Promotion of physical activity and increase of physical strength among the physically challenged or the invalid have been shown to contribute to decreased mortality rates (Schmid et al., 1998; Zwiren et al., 1975). Physical activity and exercise are also known to improve mental health as well as quality of life (QOL) (Shephard, 1991; Singh, 2002).

Continuous physical activity and exercise are essential to promoting health and preventing life-style related diseases among physically challenged individuals. Life-style related diseases pose serious threats not only to healthy but also to physically challenged individuals. For example, people who depend on wheelchairs to get around consume less energy (calories) daily, and, combined with their physical disabilities, they are prone to lose their health (Heath, 1997). Decreased physical activity in patients with chronic spinal cord injury has been shown to contribute to accumulated visceral fat and hyperinsulinemia, which are important background factors associated with ischemic heart disease (Jones et al., 2004; Nelson et al., 2007). Thus, physical exercise is of particular importance for the physiological health of physically challenged individuals whose mobility is rather limited.

In Japan, there have been increased opportunities for physically challenged individuals to participate in sports activities. A number of sports centers for people with challenges (hereafter referred to as the “centers”) have been constructed throughout Japan to promote and improve the health of physically challenged individuals. The first of such centers was constructed in Osaka in 1974. As of December 2006, there are a total of 23 centers throughout Japan. Most of them have swimming pool, arena, training gym, as well as multipurpose activity room. These centers have been established with the purpose of promoting sports and recreational activities among physically challenged individuals and to enhance their health and social participation by providing a place where both physically challenged and non-challenged individuals can interact with each other. The sports activity programs available at these centers are suitable for physically challenged individuals who have just completed their medical rehabilitation programs. Continued participation in the sports activity programs is expected to be beneficial not only in terms of maintaining and improving physical functions but also in terms of enhancing independence and QOL among the par-
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ticipants. It is reported that the sports centers for people with challenges have higher user satisfaction than general sports centers. This is because the former is more accessible and tailored to the individual needs (Kanayama et al., 2000).

Thus, increased awareness regarding the benefits of physical activity for the physically challenged has led to increased construction of centers throughout Japan, which has played a crucial role in promoting physical exercise among physically challenged individuals. However, no study has been conducted to date regarding whether such centers are run in a way that meets the expectation of the users.

The primary objective of the present study is therefore to identify how satisfied the users of the centers are in terms of the available facilities and sports activities based on the results of a questionnaire survey. To this end, two centers were surveyed: one established in Hiroshima Prefecture in August 1996, and another one established in Tokushima Prefecture in April 2006. The secondary objective of this study is to compare these two centers that have been constructed at different times taking into account the levels of satisfaction evidenced by the users in relation to the available facilities and sports activities as well as the kinds of needs the users have with respect to the centers. The centers in Tokushima and Hiroshima Prefecture are managed by a private enterprise and a social welfare company, respectively. Very few studies have investigated user satisfaction of the sports centers for people with challenges with the difference of management method.

II. Methods

Subjects
Subjects of the present study are physically challenged individuals who are regular users of the two centers selected, namely, a center located in Hiroshima and a center located in Tokushima (hereafter referred to as Center H and Center T, respectively). A total of 201 individuals were surveyed, consisting of 101 users of Center H and 100 users of Center T. Users of Center H included individuals with: a) mobility impairments (75%), b) visual impairments (11%), c) hearing impairments (8%), and d) internal disorders (6%). Users of Center T included individuals with: a) mobility impairments (81%), b) visual impairments (10%), c) hearing impairments (8%), and d) internal disorders (1%). At both centers, individuals with mobility impairments accounted for the largest proportion of users. The users of both centers who agreed to participate in the questionnaire survey were selected as the subjects of the present study. Written and oral description indicating that the data collected at the centers would only be used for scientific purposes were presented to and agreed to by the subjects. The data used in the present study have been provided and approved by Center T and Center H. The questionnaire survey was approved by Hiroshima University Graduate School of Integrated Arts and Sciences Ethics Committee.

Characteristics of each center

Both centers provide a place where both physically challenged and non-challenged individuals can interact with each other through sports activities. Centers H and T were established in August 1996 and April 2006, respectively. Center H has an 889 m² arena, a 777 m² swimming pool and a 144 m² training room, whereas Center T has an 893 m² arena, a 333 m² swimming pool and a 67 m² training room. Both centers rent their arenas and swimming pools to sports associations for physically challenged people. They offer sports classes that are tailored to the types of disabilities and age of the users so that every one can enjoy sports. The training rooms are equipped with various training machines with safety features, where sports instructors are present to explain how to use the machines and to advise on training.
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Survey contents
A questionnaire survey was carried out among physically challenged people during the period extending from May to August 2007 in an attempt to determine their levels of satisfaction in relation to the sports activities offered by the centers and needs related to the use of these centers. The following items were selected as the topics to be addressed in the questionnaire: basic information about the respondents, relationship between daily living and disabilities, information available at and user-friendliness of the sports center for people with challenges, and satisfaction and needs towards the centers. A questionnaire was either administered via interview or by collecting the completed questionnaire sheets at later times. The questionnaire sheets included the following question items:
(1) Questions regarding the characteristics of survey respondents
   Eight close-ended questions about the survey respondents' characteristics were included. They referred to: 1. gender; 2. age; 3. occupation; 4. place of residence; 5. age of disability onset; 6. cause of disability; 7. name of disability; and 8. grade of disability.
(2) Questions regarding daily living activities
   Five close-ended questions were made about: 1. difficulties in performing daily activities; 2. people who are around to help; 3. how to solve difficulties; 4. leisure time on weekdays and weekends; and 5. pastime activities. Particularly about the question regarding difficulties in performing daily activities (Question 1), respondents were asked to select their response from the range “very difficult”, “somewhat difficult” and “not difficult”.
(3) Questions regarding the use of centers
   Three close-ended questions were asked about: 1. the reasons for using the center; 2. travel time to the center; and 3. means of travel to the center.
(4) Questions regarding participating sports activities
   Nine close-ended questions were asked regarding: 1. types of sports; 2. reasons for taking up respective sports; 3. frequency of engaging in sports activities; 4. number of years of engaging in sports activities; 5. types of sports activities; 6. difficulties in participating in sports activities; 7. satisfaction towards sports activities; 8. pleasure of sports activities; and 9. expectations towards the center. As to the question about difficulties in participating in sports activities (Question 6), respondents were asked to select their response from the range “very difficult”, “somewhat difficult” and “not difficult”. As to the level of satisfaction towards sports activities (Question 7), five response options were provided, which included “very satisfied”, “somewhat satisfied”, “neither satisfied nor dissatisfied”, “somewhat dissatisfied” and “very dissatisfied”.

Statistical analysis
A chi square test was performed to identify the differences between the two centers with respect to the users' satisfaction and needs. P < 0.05 was considered as statistically significant. SPSS version 12.0 for Windows was used for statistical analysis.

III. Results

Characteristics of survey respondents
The age of disability onset is indicated in Figure 1. At both centers, approximately 35%, or the largest segment of physically challenged individuals, indicated that their disability occurred at the age between 0 and 10 years old due to congenital diseases. On the other hand, the second largest segment at Center H selected “11 to 20 years old” as the age of disability onset, whereas at Center T, the second largest segment selected “41 to 50 years old” as the age of disability onset, thus indicating statistically significant differences between the two centers (p < 0.05). The age groups of respondents are summarized in Figure 2. At both centers, the largest age group included people aged 61 years or older. The second largest age group at Center H included “51 to 60 year-old
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people", whereas the same at Center T included "40 year-old people or younger", thus indicating statistically significant differences (p < 0.05).

Figure 1 Age of disability onset

Figure 2 Age groups of users
Activities of daily living

To the questions regarding difficulties in performing daily activities, the majority of the respondents at both centers replied that they did not have any difficulties in "eating or changing clothes" or in "cleaning, washing, cooking or bathing", indicating no statistically significant differences between the two centers. To the question "What do you do when you have a problem?", 50% of the respondents at Center H and 38% of the respondents at Center T replied that they tried to solve the problem by themselves, whereas 26% of the respondents at Center H and 23% of the respondents at Center T replied that they sought advice from someone to solve the problem. On the other hand, 9% of the respondents at Center T chose "I will do nothing about the problem" as their answers to the same question, whereas no respondent at Center H chose this answer. Overall, statistically significant differences (p < 0.05) were observed between the two centers concerning the difficulties in performing daily activities.

As to leisure time (per day) on weekdays, 24% of the respondents at Center H selected "three hours" as their answers, followed by 21% who selected "four hours". At Center T, 17% of respondents indicated they had three hours of leisure time on weekdays, and another 17% indicated that they had five hours of leisure time on weekdays. On the other hand, 37% of the respondents at Center H replied that they had eight hours of leisure time on weekends, followed by 26% who indicated that they had six hours of leisure time on weekends. A similar trend was observed among the respondents at Center T, with 23% indicating "eight hours" and 15% indicating "six hours" as their leisure time on weekends. Although no statistically significant differences were observed between the two centers concerning leisure time on weekdays, a significant difference was recorded in relation to leisure time on weekends (p < 0.05). No statistically significant differences were found between the two centers concerning pastime activities as the majority of respondents at both centers (27% of respondents at Center H and 23% of respondents at Center T) chose TV as their pastime activities, followed by shopping (18% of respondents at Center H and 13% of respondents at Center T).

Center usage

Figure 3 summarizes the reasons for using the centers. At Center H, 24% of the respondents replied that they started using the center through a friend's recommendation, followed by 23% who replied that they started using the center after participating in one of the sports classes offered by the center. On the other hand, at Center T, 41% of the respondents replied that they started using the center out of their own free will, followed by 16% who replied that their rehabilitation instructors had recommended going to the center. No significant differences were then observed between the two centers concerning the reasons for using the center. In addition, no significant differences in the frequency of visiting the center were found between Centers H and T. In this respect, 62% of the respondents at Center H and 60% of the respondents at Center T indicated "two to three times a week" as their frequency of visiting the center.

Sports activities

Figure 4 shows the number of years during which respondents were engaged in sports activities. At Center H, 53% of the respondents replied that they had been engaged in sports activities for three or more years, followed by 33% who indicated three or less years of being engaged in sports activities. At Center T, 33% of the respondents indicated "a year or less" as their answers, followed by 31% who indicated "three or more years", and 21% who indicated "three years or less". Thus, statistically significant differences were found between the two centers concerning the number of years during which respondents were engaged in sports activities.
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Figure 3 Reasons for using sports centers

Figure 4 Number of years of engaging in sports activities
Figure 5 summarizes the types of sports activities enjoyed by the respondents. At Center T, 54% enjoyed swimming, followed by 25% who enjoyed weight training and 6% who enjoyed blowguns. At Center H, 58% replied that they enjoyed swimming, followed by 16% who enjoyed basketball and 13% who enjoyed weight training. Figure 6 summarizes the respondents’ answers to the

![Figure 5: Types of sports](image1)

![Figure 6: Difficulties in performing sports activities](image2)
question: "Do you have any physical difficulty in engaging in sports activities?". At Center H, 71% of the respondents and 74% of the respondents at center T replied that they had no physical difficulties in engaging in sports activities, thus indicating no statistically significant differences between the two centers. The levels of satisfaction manifested by respondents towards the content of sports activities are summarized in Figure 7, which shows no statistically significant differences between the two centers. The majority of the respondents at both Centers H and T selected either "satisfied" (Center H 43%, Center T: 52%) or "neither satisfied nor dissatisfied" (Center H: 29%, Center T: 22%) as their answers. As to the pleasure of sports activities (Figure 8), 37% of the respondents at Center H selected "pleasurable" as their answers, whereas at Center T, only 12% of the respondents selected "pleasurable" as their answers. In fact, the majority of the respondents replied that sports activities are "neither pleasurable nor unpleasurable". However, no significant differences were found between the two centers.

Respondents' satisfaction towards the centers is summarized in Table 1. At Center H, 43% of the respondents were satisfied with the sports facilities and 47% were satisfied with the instructors, whereas at Center T, 61% of the respondents were satisfied with the sports facilities and 49% were satisfied with the instructors. The percentages of respondents replying that they were satisfied with the "amount of time spent on sports activities" and "means and time of travel to the center" were 45% and 39%, respectively, at Center H, and 60% and 49%, respectively, at Center T. Although statistically significant differences were found concerning satisfaction towards sports facilities (p < 0.05), no significant differences were found in the answers to the other questions related to users' satisfaction.

Table 2 summarizes the needs of the respondents concerning the centers. Similar percentages of respondents at Center H (23%) and Center T (25%) replied that the centers should have more professionally skilled instructors and volunteer workers. Nineteen percent of the respondents at Center H replied that the centers should hold sports events for physically challenged individuals.

![Figure 7](image-url)  
Figure 7  Satisfaction about the content of sports activities
A relatively high percentage (23%) of respondents at Center T indicated that the centers should advertise themselves more extensively so that more physically challenged individuals become aware of and visit the new centers, thus creating a larger circle of people enjoying sports. Statistically significant differences were observed between the two centers concerning the respondents' needs with respect to the use of the centers (p < 0.05).

![Figure 8 Pleasure of sports activities](image)

**Table 1** Users' satisfaction towards the sports center for people with challenges

<table>
<thead>
<tr>
<th>Item</th>
<th>Region</th>
<th>Satisfied</th>
<th>Somewhat satisfied nor dissatisfied</th>
<th>Neither satisfied nor dissatisfied</th>
<th>Somewhat dissatisfied</th>
<th>Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports facilities</td>
<td>Hiroshima</td>
<td>43</td>
<td>32</td>
<td>17</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Tokushima</td>
<td>61</td>
<td>16</td>
<td>10</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Instructors</td>
<td>Hiroshima</td>
<td>47</td>
<td>23</td>
<td>23</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Tokushima</td>
<td>49</td>
<td>12</td>
<td>28</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Amount of time spent on sports activities</td>
<td>Hiroshima</td>
<td>45</td>
<td>22</td>
<td>28</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Tokushima</td>
<td>60</td>
<td>14</td>
<td>22</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Means and time of travel to the center</td>
<td>Hiroshima</td>
<td>39</td>
<td>17</td>
<td>32</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Tokushima</td>
<td>49</td>
<td>10</td>
<td>26</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Needs</th>
<th>Hiroshima</th>
<th>Tokushima</th>
</tr>
</thead>
<tbody>
<tr>
<td>The center should have more professionally skilled instructors and volunteer workers.</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Make sure that information regarding sports for people with challenges is available to as many physically challenged people as possible.</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Promote the understanding of sports for people with challenges among people who are not physically challenged.</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>The center should hold sports events for physically challenged individuals.</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>Ensure that the location of sports activities are accessible to people with challenges. <strong>Note:</strong> Make please bear in mind that the previous sentence should read either &quot;Ensure that the locations of sports activities are accessible to people with challenges&quot; or &quot;Ensure that the location of sports activities is accessible to people with challenges&quot;. Thank you!</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Ensure that some of the programs are suitable for people with severe challenges.</td>
<td>15</td>
<td>11</td>
</tr>
</tbody>
</table>

**IV. Discussion**

The answers to the question regarding the age of disability onset indicate that disabilities of the majority of respondents at both centers were due to congenital diseases. According to the answers to the question regarding the age group of the respondents, the largest age group at both centers includes people aged 61 years or older. The second largest age group at Center H includes 51-60 year-old people, whereas at Center T it includes 40 year-old people or younger. This result indicates that Center T promotes sports activities among relatively young people, whereas users of Center H tend to be older as most of them have been regular visitors to the center since it opened ten years ago.

According to Sports-Life Survey published in Japan, the purpose of engaging in sports activities differs across age groups (Sasakawa Sports Foundation 2005). While young people in their 20s tend to simply enjoy engaging in sports games, middle-age people mostly play sports as a way of interacting with people in workplaces or the community, or getting away from everyday life for a while. On the other hand, the majority of people in their 50s and 60s play sports either to maintain/enhance health and physical strength or because sports make them feel that life is worthwhile living. Ebihara (1998) claimed that while more women than men have desire to play sports, the percentage of women actually playing sports is always lower compared to that of men. His analysis demonstrates that people who have retired from work and therefore have more free time are more likely to regularly engage themselves in sports activities. These findings suggest that not only the purpose of playing sports but also the percentage of people engaging in sports activities differ across gender as well as age. This is consistent with the findings obtained from the users of sports center in the present study, in which people aged 61 years or older accounted for the largest percentage of sports center users.
Similar responses were obtained from both centers regarding difficulties in performing daily activities. The majority of the respondents at both centers replied that they did not have any difficulties in preparing for meals, washing clothes, cleaning the house, using toilets and bathing. Furthermore, most of the respondents indicated that, when faced with a problem, they tried to solve it by themselves. These two results show that most users are capable of coping with daily activities and solving any problem that may arise by themselves.

According to Pentland et al. (1999), the average leisure time of individuals with spinal cord injury is 7 hours, which is mostly spent watching television and listening to the radio. Because individuals with spinal cord injury are not capable of walking, they rely on wheelchairs to get around, and therefore their physical activity is very restricted. As a result, they end up spending most of their leisure time watching TV or doing other passive activities. A similar trend was observed in the present study, with most respondents replying that they had six to eight hours of leisure time, most of which they spent watching TV. The information presented in the report on Time Use Survey conducted every five year by the Japanese Broadcasting Corporation is consistent with that analyzed in the present study in that people spend most of their leisure time watching mass media or playing computer games, regardless of age group (NHK National Time Use Survey 2005, 2005).

Respondents at Centers H and T answered differently to the question about the reasons for using the centers. Most of the respondents at Center H replied either that they had started using the center through a friend's recommendation or that they had started using the center after participating in one of the sports classes offered by the center, whereas most of the respondents at Center T replied either that they had started using the center out of their own free will or that because their rehabilitation instructors had recommended going to the center. The most commonly selected answer to the question regarding the number of years of being engaged in sports activities was "three or more years" at Center H (53%) and "one year or less" at Center T (33%). As to the frequency of engaging in sports activities, over 60% of the respondents at both centers selected "two to three times a week". The fact that respondents at Center H were engaged in sports activities during a period longer than that among respondents at Center T indicates that sports activities are relatively popular and well-known among physically challenged people living in the community in which Center H is located. On the other hand, the relatively shorter period of time of being engaged in sports activities among respondents at Center T indicates that, although public awareness of sports activities for the physically challenged is rising, there are still potential users in the community who have not yet visited the center. According to the Opinion Poll on Physical Strength and Sports conducted by Japan Cabinet Office in 2006, 26.8% of the respondents felt that they seriously lacked exercise, whereas 41% felt that they somewhat lacked exercise. This means that as many as 67.7% of the people surveyed felt that they were not getting enough exercise. The analysis of the results by gender and age reveals that women were more likely than men to feel that they lacked exercise, and that approximately 80% of the people aged 30 to 49 years old felt that they were not getting enough exercise. For the current exercise status, 75.7% and 82.2% of the respondents in their 60s and 70s, respectively, replied that they engaged in physical exercise at least once a week, whereas only 39.2% of younger age groups replied that they engaged in physical exercise once a week, showing a remarkable difference between the younger people, who, despite their eagerness, found it difficult to keep up regular exercise, and their older counterparts, who were highly health-conscious and capable of maintaining regular physical exercise. The most common reason for not getting enough exercise was lack of time.
due to work (housework and childcare responsibilities) (51.6%), followed by lack of physical strength (17.8%), old age (17.4%), dislike of sports and physical activities (10.4%), costs (9.3%), and lack of company (4.2%) from The Cabinet Office Public Relations Department 2006, not published. Compared to these results, the sports center users in the present study were far more active, with a majority of respondents visiting the centers two to three times a week.

At both centers, the majority of the respondents selected “swimming” as the type of sports they enjoyed. Swimming has many benefits. Hutzler et al. (1998) showed that the lung function of children with cerebral palsy improves dramatically through swimming, compared to their non-swimming counterparts. According to Schlough et al. (2005), aerobic exercise is useful for strengthening the lower limb muscles of children with cerebral palsy. In short, swimming is not only safe but also useful for enhancing heart and lung functions. Thus, it is quite understandable that it was one of the most preferred choices of sports at the centers studied.

Neither respondents at Center T nor those at Center H had any particular physical difficulty in engaging in sports activity. Respondents at both centers showed high levels of satisfaction towards the sports activities offered by the centers. On the other hand, respondents at Center H found sports activities more pleasurable than did their counterparts at Center T, which seems to be due to the fact that a large number of users at Center H had been using the center for years and are therefore more comfortable with sports activities than their counterparts at the newly-established Center T.

According to Wu & Williams (2001), physically challenged individuals are more influenced by people or friends with whom they engage in sports activities than by a rehabilitation instructor. Wu & Williams (2001) also indicated that such individuals play sports to maintain health and to have fun, which is consistent with the findings of the present study. At both centers, users’ satisfaction towards sports facilities, instructors, content of sports activities, amount of time spent on sports activities, and means of access to the center was very high. On the other hand, respondents at both centers replied that the center should have more professionally skilled instructors and volunteer workers. Respondents at Center H, most of whom had been using the center for many years, replied that the center should hold sports events for physically challenged individuals. Such sports events would be good opportunities for them to demonstrate how much they have improved through several years of practice. Respondents at Center T indicated that, because the center has only recently been established, it should advertise itself more extensively so that more physically challenged individuals become aware of and visit the new center, thus enlarging the circle of people enjoying sports. It is also important to bear in mind that information sharing through advertisement is only the first step in promoting sports among physically challenged individuals. There should also be some practical measures to ensure their continued participation in sports activities.

Muraki et al. (2000) carried out a questionnaire survey to investigate the psychological state of the physically challenged individuals who were engaged in sports activities and those who were not. Results from their study showed that individuals who were engaged in sports activities were a lot less likely to become depressed or unstable compared to their counterparts who were not engaged in sports activities, and that their emotional state for the past week was good and physical state for the past week was very good. In addition, the individuals who were engaged in sports activities three or more times a week showed a particularly good psychological state. In the present study, over 60% of the respondents at both centers visited the centers two to three times a week, most of whom replied that they very much enjoyed the sports activities offered by the centers. In this respect, results from the present study are consistent with Muraki et al. (2000)
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in that sports activities have a positive impact on the psychological state of physically challenged individuals.

Respondents at both centers were highly satisfied with the sports facilities, instructors, content of sports activities and amount of time spent on sports activities. This finding indicates that, despite the different times at which the centers were established, users at both centers were satisfied with the sports activities available at the centers. On the other hand, the largest segment of respondents at both centers replied that the center should have more professionally skilled instructors and volunteer workers. The second largest segment at Center H replied that the center should hold sports events for physically challenged individuals, whereas at Center T, the second largest segment of respondents replied that the center should advertise itself more extensively. Since Center H was established 10 years ago, it is reasonable that many of the users who have been playing sports for years should like to have some kind of a goal, like a sports event, towards which they can strive. Center T, on the other hand, is a relatively new center, where the users' primary interest lies in having a larger circle of physically challenged people with whom they can enjoy sports. These results indicate how users' needs towards the centers differ depending on when the centers have been established. In order to have a clearer view of the value of sports activities for physically challenged people, it is necessary to carry out surveys of the centers on a regular basis. No difference was observed between the two centers with respect to the facilities and the sports programs offered. At Center T, the focus was placed on promoting sports activities and companionship, and many of the users sought to bring variety into their lives through sports activities. On the other hand, Center H placed value on sports activities and events offered to its users who had visited the center for up to 10 years. Users of Center H had long years of experience in sports, and enjoyed the challenge of testing their strength. These differences between the two centers are due largely to differences in the content of instructions offered at these centers as well as to differences in relationship among users as well as in user-instructor/volunteer relationship.

The present study collects basic data from two sports centers established at different times to investigate the users' satisfaction and needs towards the centers. It is evident that sports centers for people with challenges offer great opportunities for physically challenged individuals to improve their functions and attain psychological well-being. On the other hand, the present study has limitations in that physically challenged individuals have varying needs for sports and that such needs may differ across regions. Nevertheless, the fact that users' satisfaction towards sports activities was high in both Center H and Center T indicates that the establishment of sports centers for people with challenges has contributed greatly to the promotion of sports among those in Japan. To more clearly define the satisfaction and needs of physically challenged people towards sports centers for people with challenges, further studies must be carried out including a larger number of sports centers and facilities than that considered in the present study.

References


Hutzler, Y., Chacham, A., Bergman, U. and Szeinberg, A.
Characteristics of people with challenge using two different sports facilities in Japan


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