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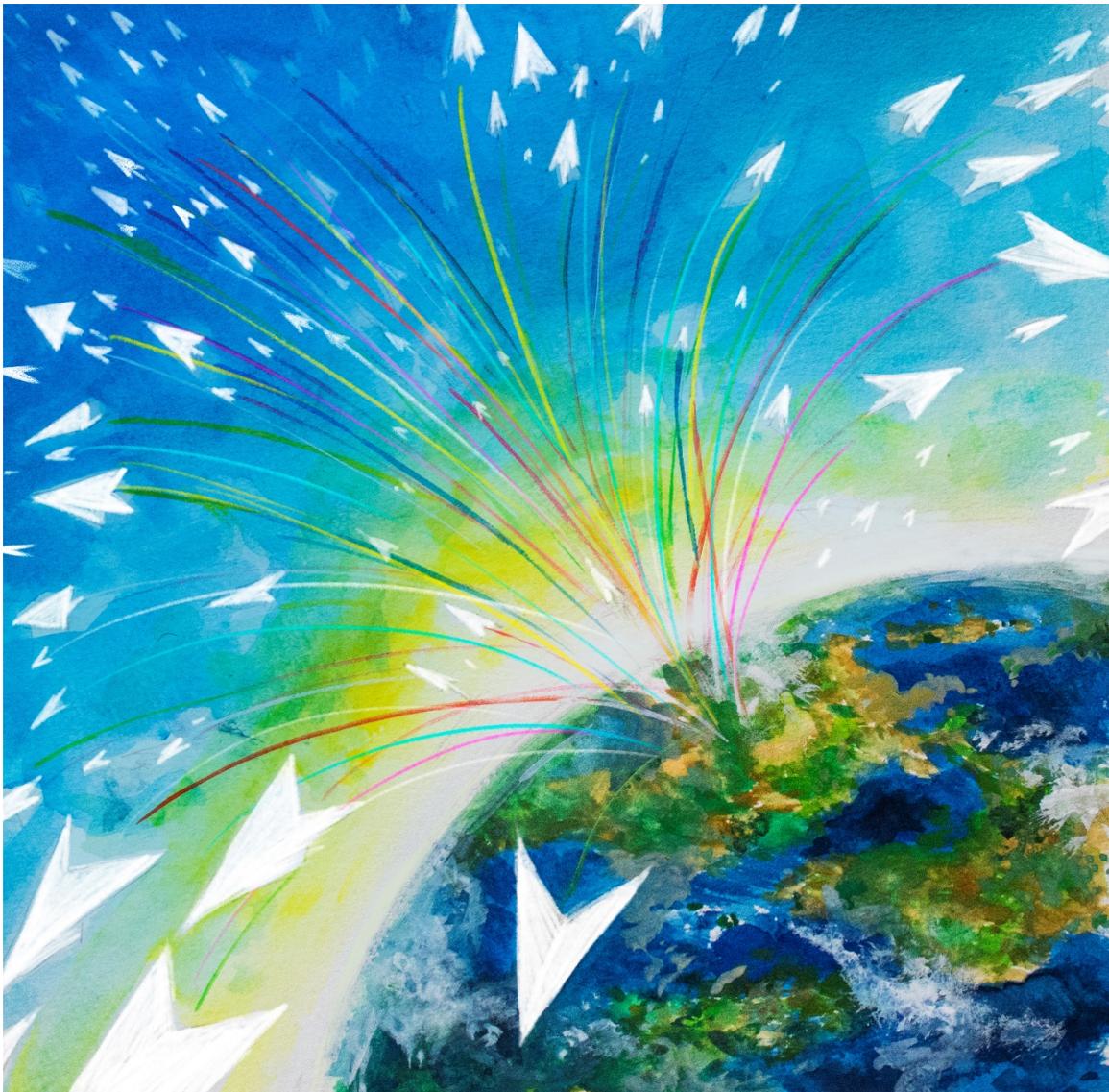
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[MESSAGE TO THE WORLD]

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ORIGINAL ARTICLE

The Status of Vocational Rehabilitation Using Agriculture in Japan;

Survey of Work Support Centers for Continuous Employment Type B in
Akita Prefecture

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ABSTRACT

The purpose of this study was to investigate perceptions of the effectiveness of horticulture therapy (HT) in Japanese Work Support Centers for Continuous Employment Type B(WCE-B). A questionnaire was mailed to all participating WCE-B. A comparison was made between the importance of and perceived need for improvement across the main work categories and the main disability type of users. The trends in perceptions of the importance of each item were almost identical between agricultural work (AW) and non-AW. In AW, the need to create a reassuring atmosphere, item 9 and 5, was found to be important while in non-AW, the need to provide physical experience opportunities, item 10, was responded to. Perceptions of the importance of each item were similar between people with psychiatric disorder and intellectual disability, with a higher selection ranking for items related to the provision of receptive places perceived as important across AW and non-AW. For psychiatric disorders, the provision of physical experiences in item 10 was needed while the promotion of opportunities for interaction between users in item 9 was needed for intellectual disabilities. Based on the results of this study, it is necessary to examine the role WCE-B are expected to play in the future.

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I. Introduction

In recent years, collaboration between agriculture and welfare (CAW) has been attracting attention in Japan. CAW is defined as “an effort to promote the development of agricultural management, the creation of self-confidence and motivation for persons with disabilities, and ultimately social participation by promoting the activities of persons with disabilities in the agricultural field through cooperation between agriculture and welfare” ¹⁾. Agricultural cooperation is expected to not only contribute to solving issues such as the shortage of farmers in Japan, but also help address the problem of the lack of vocational training opportunities for the disabled. This is indeed a win-win approach for both farmers and people with disabilities. Therefore, based on the concept of CAW, welfare facilities of transition support for employment and Work Support Centers for Continuous Employment Type B (WCE-B) have started to consider introducing agriculture as a training item in vocational rehabilitation programs.

The practice of horticultural therapy (HT) in vocational rehabilitation (VR) is instructive in considering the effects of CAW. HT is defined as “the art and science of growing flowers, fruits, vegetables, and shrubs resulting in the development of the minds and emotions of individuals, the enrichment and health of communities, and the integration of the “garden” in the breadth of modern civilization” ²⁾. Horticultural activities focusing on the relationship between plants and humans would be helpful in providing work support using agriculture. Relf ³⁾ noted that the introduction of HT into a VR program can be effective in terms of changes in self-concept, social interaction, physical abilities, academic skill development and improved work habits. Grahn, Pálsdóttir, Ottosson and Jonsdottir ⁴⁾ investigated the effects of a nature-based VR program on depression and mental disorders through a prospective quasi-experimental study and reported that the study outcomes indicated an increase in the possibility of a return to paid work. Joy, Lee and Park ⁵⁾ examined the pretest-posttest intervention effects of a HT program for the VR of individuals with intellectual disabilities and reported improvements in hand function, emotional behavior, and social skills. Pálsdóttir, Grahn and Persson ⁶⁾ described and assessed changes in participants’ experiences of occupations after nature-based VR, noting that a slower pace of everyday life and work lead to a positive change in perceived values of everyday occupations. These studies confirm the effectiveness of VR programs using HT.

In Japan, research on the effects of HT in VR programs can be confirmed. These effects include effective stress reduction methods ⁷⁾, expansion of the client’s interest in the world ⁸⁾, effective convalescence, improvement of communication skills and aptitude of life rhythms ⁹⁾, decreased mental stress and increased positive emotions ¹⁰⁾.

So, how is the HT perspective incorporated in WCE-B? We can confirm that there are practical reports on CAW, mainly in the agricultural field, but there is still little research on agriculture and VR. In addition, while there are few studies on the relationship between culture and the arts ¹¹⁾, there are only a few studies that examine VR from the

perspective of HT. It is important to clarify the perceptions of WCE-B from the perspective of HT, as it is expected that the number of CAW will increase. This will be useful in examining how to provide VR in the future. The purpose of this study was to investigate perceptions of the effectiveness of HT in Japanese WCE-B.

II. Method

1. Participants

A self-administered questionnaire survey was conducted at all 119 WCE-B in Akita Prefecture (as of October 1, 2019). The survey form was mailed to the management of each facility with a request to participate in the study. The survey period was from January 10 to February 20, 2020. Completed questionnaires were returned by postal mail. Of the 119 facilities contacted, 60 responses were returned (50.4% response rate).

2. Survey items

The questionnaire consisted of four parts: basic information, implementation status of work support, effectiveness of work support, and attitudes toward support. In this study, the number of registered users by disability, the implementation status of work support using agriculture, and the effect of work support were analyzed.

For basic information, we asked for the number of registered users by disability (intellectual disability, physical disability, psychiatric disability, and other disabilities) and the status of implementation of work support using agriculture (implementation of CAW, existence of agriculture-related work and absence of agriculture-related work).

The Support Effect Achievement Checklist (SEACH) was developed from the Program Evaluation Table for Horticultural Therapy ¹²⁾ of 11 items related to treatment effects (bringing hope, universal experience, accepted experience, altruistic experience, information transfer, reality examination, imitation learning modification, expression catharsis, interaction cohesiveness, shared experience, and existential experience). Based on the commentary by Yamane and Sawada ¹²⁾, each question was composed by examining the wording and confirmed by collaborators with research experience and practice expertise in VR.

For each item, the respondents were asked to provide three items for the following two questions better: “What do you think is important for providing work support (which may or may not be implemented)” and “What do you think needs to be improved in providing work support”.

3. Data analysis

The percentage of users per disability was calculated from the number of registered users, and the type of disability with the highest percentage was designated as the main disability type for each facility. Two categories of work were classified as follows: agricultural work (AW) for those who had implemented CAW and have done

agriculture-related work, and non-agricultural work (non-AW) for those who had not done agriculture-related work.

The number of selections per item was counted, and selections were arranged in order of ranking among disability types and work categories. The perceptions were analyzed in terms of their selection ranking trends.

4. Ethical Considerations

This research was approved by the Research Ethics Screening Committee to conduct a study targeting people in the Tegata region of Akita University (No. 1-10 on 4 December 2019). On the front cover of the questionnaire, it was stated that personal information such as the names of individuals and facilities of the respondents would not be used, and that the data would not be used for any other purpose. Consent for survey cooperation was obtained by replying to the questionnaire.

III. Results

1. Basic attributes of the participants

The basic attributes of the participants are shown in Table 1. Twenty-nine facilities (48.3%) had AW as their main work, while 31 facilities (51.7%) had non-AW as their main work. The primary disability was intellectual disability at 34 (56.6%) facilities and psychiatric disability at 19 (31.6%) facilities. The ratio of users per disability was calculated from the number of registered users for each disability, and the disability type with the highest ratio was designated as the main disability type of each facility. In the following analysis, the 34 (56.6%) facilities with intellectual disability and 19 (31.6%) facilities with psychiatric disability as the main disability type for users were used in the analysis, excluding those facilities with a small number of physical and other disability and those with the same percentage of main disability.

2. Comparison of perceptions between AW and non-AW

A comparison was made of the importance of and perceived need for improvement across the main work categories of AW and non-AW (Table 2). The trends in perceptions of the importance of each item were almost identical between AW and non-AW. Specifically, responses for items 3, 7, 4 and 1 on providing a receptive place were indicated as important. There was a difference in a part of the perception of the need for improvement for some items. There was a similarly high level of perceived need for improvement on the promotion of interaction between users in items 6 and 7 across AW and non-AW. In AW, the need to create a reassuring atmosphere, item 9 and 5, was responded to need for improvement, while in non-AW, the need to provide physical experience opportunities, item 10, was responded to need for improvement.

3. A comparison of perceptions between psychiatric disorder and intellectual disabilities

A comparison was made between the main disability type of users, psychiatric disorder and intellectual disabilities, based on respondents' perceptions of importance and the need for improvement (Table 3). Perceptions of the importance of each item were similar between psychiatric disorder and intellectual disability, with a higher selection ranking for items related to the provision of receptive places perceived as important across AW and non-AW. In terms of the main disability type of users, there was a difference in the need for improvement. For psychiatric disorders, the provision of physical experiences in item 10 was needed while the promotion of opportunities for interaction between users in item 9 was needed for intellectual disabilities.

<Table 1> Basic attributes of the participants

Number of registered users	
Intellectual disability	Mean: 14.1 (SD: 10.07, range: 0-41)
Physical disability	Mean: 3.0 (SD: 4.06, range: 0-21)
Psychiatric disability	Mean: 8.8 (SD: 10.65, range: 0-61)
Other disabilities	Mean: 0.5 (SD: 1.24, range: 0-6)
Number of facilities (%)	
Main disability type of each facility	
Intellectual disability	34 (56.6)
Psychiatric disability	19 (31.6)
Not included in the analysis	
Physical disability	2 (3.3)
Other disabilities	0 (0.0)
Not classifiable	5(8.3)
AW	29 (48.3)
CAW	12 (20.0)
Agriculture-related work	17 (28.3)
Non-AW	31 (51.7)

AW: Facilities that do the agricultural work to provide support.

CAW: Facilities that do the collaboration between agriculture and welfare to provide support.

Non-AW: Facilities that do the non-agricultural work to provide support.

<Table 2> Comparison of perceptions between AW and non-AW

Ranking of importance (number of selections)		Item	Ranking of need for improvement (number of selections)	
AW	Non-AW		AW	Non-AW
1 (18)	3 (16)	3. Clients can feel accepted for his or her existence.	9 (4)	7 (5)
2 (15)	1 (20)	7. Enable clients to acquire the skills necessary for social life and to have a sense of distance from others.	2 (12)	1 (18)
3 (13)	5 (8)	4. Focus on what clients can do while helping them feel a “sense of security” and the “warmth of people”.	10 (3)	7 (5)
4 (11)	2 (17)	1. Clients can feel relieved just by coming here, or feel like they can do it again for a reason.	7 (5)	10 (10)
5 (10)	6 (8)	8. Clients can express their thoughts and feelings.	6 (8)	3 (11)
6 (9)	4 (9)	6. Clients have the opportunity to identify their situation and their abilities.	1 (15)	3 (11)
7 (4)	11 (0)	9. Clients can interact with others in a calm and gentle manner.	3 (11)	7 (5)
8 (3)	10 (1)	10. Allow clients to share physical experiences with others that utilize the five senses.	7 (5)	2 (12)
9 (2)	8 (3)	2. Through interaction with others with common disabilities, clients can feel at ease that they are not alone.	10 (3)	11 (2)
9 (2)	7 (4)	5. Clients can have a free and natural place to interact with each other where they can exchange information about their lives and hobbies.	4 (9)	6 (6)
11 (0)	8 (3)	11. Clients can have peace of mind to accept who they are.	4 (9)	5 (7)

AW: Facilities that do the agricultural work to provide support.

Non-AW: Facilities that do the non-agricultural work to provide support.

<Table 3> Comparison of perceptions between PD and ID

Ranking of importance (number of selections)		Item	Ranking of need for improvement (number of selections)	
PD	ID		PD	ID
1 (13)	2 (18)	3. Clients can feel accepted for his or her existence.	11 (0)	7 (7)
2 (9)	4 (15)	1. Clients can feel relieved just by coming here, or feel like they can do it again for a reason.	7 (3)	10 (4)
3 (8)	6 (9)	6. Clients have the opportunity to identify their situation and their abilities.	2 (10)	1 (14)
3 (8)	1 (21)	7. Enable clients to acquire the skills necessary for social life and to have a sense of distance from others.	1 (12)	1 (14)
5 (7)	5 (11)	8. Clients can express their thoughts and feelings.	4 (6)	3 (11)
6 (4)	3 (16)	4. Focus on what clients can do while helping them feel a “sense of security” and the “warmth of people”.	9 (2)	9 (5)
7 (2)	7 (3)	2. Through interaction with others with common disabilities, clients can feel at ease that they are not alone.	7 (3)	11 (1)
7 (2)	9 (2)	9. Clients can interact with others in a calm and gentle manner.	9 (2)	3 (11)
7 (2)	11 (1)	10. Allow clients to share physical experiences with others that utilize the five senses.	3 (7)	7 (9)
10 (1)	7 (3)	5. Clients can have a free and natural place to interact with each other where they can exchange information about their lives and hobbies.	6 (4)	6 (10)
10 (1)	9 (2)	11. Clients can have peace of mind to accept who they are.	5 (5)	3 (11)

PD: Facilities mainly with Psychiatric disorder

ID: Facilities mainly with intellectual disability

IV. Discussion

In this study, we examined work support in WCE-B from the perspective of HT. As a result, the perceptions of importance were similar across the main work categories and also across the main types of disabilities. In general, it is thought that work support is provided by taking into account the type of work or disability, but in Japan’s WCE-B, there is no difference in the characteristics of support from the perspective of HT, and HT is thought to be recognized as important as a common foundation of work support and incorporated into practice.

The central stance of support for Japan’s WCE-B is to provide a place for people with

disabilities to feel comfortable. Matsumoto et al.'s ¹³⁾ sampling survey of nationwide WCE-B reported that the purpose of productive activities in establishments that emphasize the provision of living spaces and daytime activities most often in Japan is to provide individual user satisfaction and emotional stability. Lee and Lee ¹⁴⁾ pointed out that the delivery systems for employment services for disabled persons are rather important and administrative support is needed to enhance the functioning of work support service organizations from the comparative analysis of the employment quota systems for disabled people in Japan and Korea. Therefore, along with the promotion of CAW, it is considered necessary to intervene to enhance VR programs for the transition of persons with disabilities to employment.

The recognition of the need for improvement revealed challenges in promoting CAW in support for WCE-B. Those with AW as their primary work category identified the promotion of a reassuring atmosphere as an improvement item, while those with non-AW as their primary work category identified the provision of physical experience as an improvement item. In particular, HT is said to have a therapeutic effect on stress relief, and it would be effective to incorporate a HT program for AW. Kanda et al.¹⁵⁻¹⁶⁾ and Toyoda and Ikeda¹⁷⁾ pointed out that further knowledge dissemination and human resource development are needed to incorporate HT into VR programs in Japan, where the methods and effects of HT are not well understood. Therefore, it is considered necessary to verify the effectiveness of HT in support of employment in the promotion of CAW.

There was a difference in the recognition of the need for improvement in some items at WCE-B, which mainly serve users with intellectual disabilities and psychiatric disorders. It was thought that it was necessary to examine the program according to the characteristics of disabilities, rather than setting up a uniform VR program regardless of the type of disability. The necessity of securing opportunities for physical interaction was cited for the WCE-B that mainly serve users with psychiatric disorders. This may indicate the need for a non-invasive setting based on non-verbal interactions based on the characteristics of people with psychiatric disorders. On the other hand, the necessity of setting up opportunities for interaction with others was raised in the WCE-B that mainly serve intellectual disabilities. This may indicate the need for opportunities to restore self-esteem and promote social skills. Thus, while recognizing the need for support according to disability characteristics, the current situation seems to be that sufficient improvements have not been made and reflected in support programs. It is necessary to construct a system that can provide supervision of work support for WCE-B. In Japan, there is no such system of certified rehabilitation counselors as there is in the United States, and welfare and labor are often separated from each other in the development of support. We believe that these areas need to be integrated.

V. Conclusion

The research questions for this study were as follows: (a) Is there a difference in the perspective of HT in work support based on the main work categories in Japan's WCE-B? and (b) Is this different depending on the type of disability of the primary user?

The responses from the WCE-B obtained suggestions regarding the usefulness of incorporating HT programs in CAW. In addition, the analysis of the main disability type of users revealed perspectives for improving the VR support system in Japan. Based on the results of this study, it is necessary to examine the role expected of WCE-B in the future.

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