

## Relationship Between Difficulties Encountered in School Life or Daily Life by Professional Training College Students and Their Sources of Advice

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### ABSTRACT

**Background** This study attempted to clarify issues regarding difficulties in school life perceived by professional training college students and educational support systems for students including possible developmental disabilities.

**Methods** We surveyed 953 students enrolled at 9 professional training colleges in Japan by using an anonymous self-administered questionnaire to investigate difficulties during school life, help-seeking preferences, and self-esteem. Difficulties were investigated by using the Self-Cognitive Difficulties Scale, help-seeking preferences were assessed with the Help-Seeking Preferences Scale, and self-esteem was assessed by the Rosenberg Self-Esteem Scale. We also investigated the relationship between the Self-Cognitive Difficulties Scale and the sources of advice used by students.

**Results** Responses were obtained from 863 students, and those of 775 students were considered to be valid. In terms of learning scenarios, 271 students (35.0%) responded that written examinations caused the most difficulties. The Rosenberg Self-Esteem Scale and Help-Seeking Preferences Scale were negatively correlated with the Self-Cognitive Difficulties Scale. With respect to the relationship between sub-factors of the Self-Cognitive Difficulties Scale and sources of advice, the students who asked specialists for advice had significantly higher scores for the factors of interpersonal relationships and reading/writing, as well as significantly higher scores for impulsivity and learning-related difficulties. The students who asked their previous high school teachers for advice had significantly higher scores for inattention and reading/writing. Furthermore, the students who asked senior students in the same department for advice had a significantly higher score for learning-related difficulties.

**Conclusion** Our results suggested that professional training college students with a high Self-Cognitive Difficulties Scale score are more likely to choose a specialist as the source of advice. When providing educational support to professional training college students, it is important to consider the possibility that their sources of advice might differ depending on their

individual self-perceived difficulty characteristics.

**Key words** consultation; developmental disabilities; questionnaire; students with educational needs

According to a 2008 report by a Japanese research agency on support for students with disabilities attending higher education institutions in other countries, the enrollment rates of students with disabilities was approximately 11% in the United States and 3% in the EU, compared to 0.16% in Japan, which is very low.<sup>1</sup> According to a survey by the Japan Student Services Organization in 2015, the number of students with disabilities attending college, junior college, and higher professional training schools was 21,721, accounting for 0.68% of all students (3,185,767 students). Among them, students with a developmental disability (with a medical certificate) (3,442 students) accounted for 15.8% of all students with disabilities.<sup>2</sup> However, this survey did not include special training colleges, so-called professional training colleges (PTCs), and their current situation has not been clarified. According to the Ministry of Education, Culture, Sports, Science and Technology, among all special training colleges in Japan as of 2015, there were 2,823 schools that offered professional training courses (i.e., PTCs, excluding those that offered higher education courses, correspondence courses, or credit-based courses), and the number of students attending these schools was reported to be 588,183.<sup>3</sup> Some surveys have reported that PTCs also have students with developmental disabilities.<sup>4</sup>

There are various issues with regard to providing support to students with developmental disabilities attending educational institutions. In other countries, with the promotion of reasonable access, studies on

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Abbreviations: ASD, Autism Spectrum Disorder; HSPS, Help-Seeking Preferences Scale; PTC, Professional Training College; RSES, Rosenberg Self-Esteem Scale; SCDS, Self-Cognitive Difficulties Scale

transitional support to higher education have shown that a lack of transitional support can lead to serious problems.<sup>5,6</sup>

In Japan, the Act for Eliminating Discrimination Against People with Disabilities was enforced in 2016. According to this Act, when an operator considers reasonable access for PTC students, it should be based on expression of each student's intentions. However, it is not necessarily easy for students who are currently enrolled at school to express their intentions. Kimura proposed that student support should be provided in colleges according to the process of aid-requesting behavior, focusing on "students who have concerns but do not seek help."<sup>7</sup> Hoshino reported that some people with developmental disabilities have low self-assessment and self-esteem, so that an inferiority complex, feeling of enervation, or sense of isolation or being estranged tends to become stronger in puberty and adolescence.<sup>8</sup> Therefore, when providing educational support to PTC students, we think it is important to assess how their difficulties could be related to consultation and to provide support that takes self-esteem into consideration.

Accordingly, the present study was conducted with the following aims: 1) to clarify learning scenarios in which PTC students encounter difficulties, 2) to examine how self-perceived difficulties, including possible developmental disability, were associated with help-seeking preferences and self-esteem, and 3) to investigate the characteristics of self-perceived difficulties, including possible developmental disability, and sources of advice, and examine factors that promoted self-expression.

## **SUBJECTS AND METHODS**

### **Subjects**

We explained the purpose of this study in writing to 42 departments of 17 PTCs in Japan that offered daytime courses with a length of 2 years or longer and accepted students with qualifications equal to or higher than high school graduates. As a result, 23 departments at 9 schools approved participation in the study, and a total of 953 PTC students were included.

### **Methods**

A postal questionnaire survey was conducted using an anonymous self-administered questionnaire. For the survey, questionnaire forms were distributed in October 2017, with the collection deadline being January 31, 2018.

### **Subject attributes**

The questionnaire asked students about characteristics

such as their grade, sex, age, admission status, department, and practical training experience. It also included a question regarding the learning scenarios that caused students the most difficulty.

### **Self-Cognitive Difficulties Scale**

In this study, we used Self-Cognitive Difficulties Scale (SCDS), which consists of 32 items and 7 factors. This scale was developed for university students using items related to difficulties that students with developmental disabilities are likely to experience, and it has been recognized to show a certain degree of reliability.<sup>9</sup> Subjects were asked to review their recent school life as well as daily life (within 6 months) and respond to questions regarding whether they had encountered difficulties related to each item using a 4-point scale, ranging from "Often" (score 4) to "Never" (score 1). In this study, the mean score of the 32 items was calculated as the SCDS score, and the mean score for each of the 7 factors was also obtained. The high SCDS score shows that self-cognitive difficulties are high. The 7 factors included inattention, impulsivity, interpersonal relationships, learning-related difficulties, reading/writing, anxiety/depression, and sensory difficulties.

### **Help-Seeking Preferences Scale**

Help-seeking preferences were assessed by using the Help-Seeking Preferences Scale (HSPS).<sup>10</sup> Subjects were asked to review their recent school life and daily life (within 6 months) and respond to questions by using a 5-point scale, ranging from "Applicable" (score 5) to "Inapplicable" (score 1). The mean score for the 11 items was calculated as the Help-Seeking Preferences score. The high HSPS score shows that help-seeking preferences are high.

### **Rosenberg Self-Esteem Scale**

The Rosenberg Self-Esteem Scale (RSES) was created by Rosenberg<sup>11</sup> and translated into Japanese by Yamamoto.<sup>12</sup> Responses were rated on a 5-point scale. The expressions "Somewhat applicable" and "Somewhat inapplicable" were changed to "Probably applicable" and "Probably inapplicable" respectively, in order to make it easier for subjects to respond. The scores ranged from 5 for "Applicable" to 1 for "Inapplicable" in decreasing order, and the mean score for 10 items was calculated as the RSES score. The high RSES score shows that self-esteem is high.

### **Sources of advice about problems**

Using a specially developed questionnaire, subjects were asked "If you encounter difficulty in your school life

and cannot solve the problem on your own, would you turn to the following people for advice? Please circle the one that is applicable,” for each of the following people: a teacher with whom interactions are frequent, such as in class or seminars; a specialist (teacher in charge of counseling or learning support, or health center staff); a friend within the class; a friend outside the class; a senior in the same department; a teacher from high school; and family members. Responses were provided on a 2-point scale, either “Yes” or “No.”

### Data analysis

Results were expressed as the mean (standard deviation). To assess correlations among the SCDS, HSPS, and RSES we determined Cronbach’s  $\alpha$  and Spearman’s rank correlation coefficients. In addition, for the SCDS and whether students would seek advice from indicated sources, statistical analysis was performed using the Mann-Whitney *U*-test. All responses were subjected to analysis, excluding those with duplicate descriptions regarding the affiliated department and those with missing data on the three scales. Analyses were performed using statistical software SPSS Statistics 25 (IBM), and statistical significance was set at 5%.

### Ethical considerations

Before conducting the survey, we sent the protocol of this study with a request letter to the principals of the target schools and obtained written consent. When distributing the survey forms to students, the purpose and methods of the survey were described in writing, including a statement that the questionnaire was anonymous and not compulsory, as well as information about privacy considerations, use of research data, and how the data would be discarded after completion of analysis; that not participating in the study would cause no disadvantages; that the study would only be conducted with participants who gave consent; and that sending a response would be considered as consent to participation in this study. This study was conducted with approval from the Ethics Committee of the Faculty of Medicine, Tottori University (approval number: 17A016; Date of approval: September 29, 2017).

## RESULTS

### Subjects

While 863 responses were collected (recovery rate: 90.5%), 775 were classified as valid responses (valid response rate: 81.3%). Table 1 shows the characteristics of the subjects. There were 350 1st year students, 303 2nd year students, 72 3rd year students, and 50 4th year students. In addition, 310 students were male and 463

were female, and those aged 18 to 19 years formed the largest group ( $n = 370$ ). At the time of admission, 613 had just graduated from high school and 111 were students with work experience. By department, the number of students in physical/occupational therapy was the highest at 225, followed by 175 in sports and physical education, 118 in care and welfare, and 93 in nursing and health nursing. There were 556 students who had practical training experience within the past year for a total of 10 days or more, whereas 217 students had no such experience. Table 2 shows the learning scenarios in which students encountered the most difficulty. For the chief scenario, 271 (35.0%) students responded “written examinations.” Figure 1 displays scores for the sub-factors of the SCDS. The highest score was 2.5 for anxiety/depression. The sources of advice used by students when problems were encountered are shown in Fig. 2. The highest number of students responded “Yes” to whether they would ask a friend within the class for advice ( $n = 585$ ; 76.4%), followed by a family member ( $n = 523$ ; 68.6%), a friend outside the class ( $n = 496$ ; 65.1%), and a teacher ( $n = 425$ ; 56.2%), in descending order.

### Relationship among the SCDS, HSPS, and RSES

The relationships among the SCDS, HSPS, and RSES are detailed in Table 3. Cronbach’s  $\alpha$  coefficient was 0.920 for the SCDS, 0.811 for the HSPS, and 0.814 for the RSES. Spearman’s rank correlation analysis revealed a significant positive correlation between the RSES score and the HSPS score. The RSES score showed a significant negative correlation with the SCDS score, and the HSPS score also had a significant negative correlation with the SCDS score.

### Relationship between the SCDS and sources of advice

Table 4 shows the relationship between the SCDS and whether students would seek advice from indicated sources. In terms of this scale, significantly higher results were seen for those who responded “No” to asking teachers and friends within the class for advice, and significantly higher results were seen for those who responded “Yes” to asking specialists for advice.

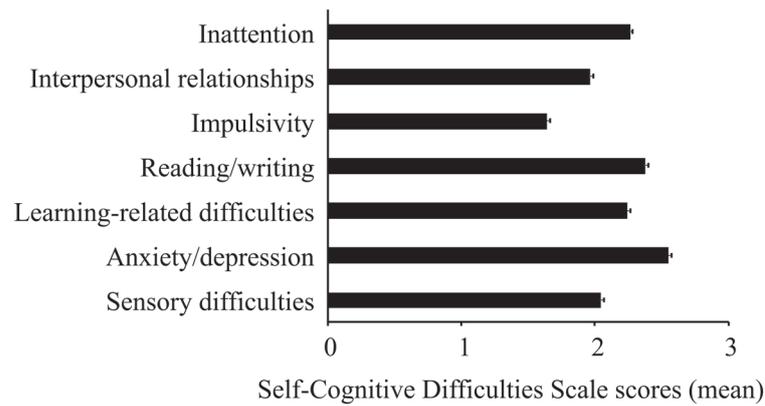
The following sources of advice had significantly higher scores for sub-factors of the SCDS. First, compared to the students who responded “No” to whether they would ask specialists for advice, the students who responded “Yes” had significantly higher scores for interpersonal relationships and reading/writing, and also had significantly higher scores for impulsivity and learning-related difficulties. In addition, compared

**Table 1. Subject characteristics**

	Variable	<i>n</i>	%
Grade	1st year student	350	45.2
	2nd year student	303	39.1
	3rd year student	72	9.3
	4th year student	50	6.5
Sex	Male	310	40.0
	Female	463	59.7
	No answer	2	0.3
Age (years)	18–19	370	47.7
	20–29	345	44.5
	30–39	24	3.1
	≥ 40s	31	4.0
	No answer	5	0.6
Admission status	New high school graduate	613	79.1
	Students with work experience	111	14.3
	No answer	51	6.6
Department	Physical/occupational therapy	225	29.0
	Sports, physical education	175	22.6
	Care and welfare	118	15.2
	Nursing, health nursing	93	12.0
	Hotel	62	8.0
	Office work, medical office work	44	5.7
	Childcare, child welfare	32	4.1
	Business	18	2.3
	Other	6	0.8
	No answer	2	0.3
Practical training experience	Yes	556	71.7
	No	217	28.0
	No answer	2	0.3

**Table 2. Learning scenarios that cause students the most difficulty (multiple answers allowed)**

Variable	<i>n</i>	%
Lectures	53	6.8
Written examinations	271	35.0
Relationships with teachers and instructors	63	8.1
Group work and exercises	111	14.3
Research papers	124	16.0
Client service in practical training	47	6.1
Client communication in practical training	55	7.1
Other	10	1.3
None	111	14.3



**Fig. 1.** Mean scores of the sub-factors of the Self-Cognitive Difficulties Scale. Scores are expressed as the mean and standard error. The highest score was noted for anxiety/depression.

to the students who responded “No” to whether they would ask their high school teachers for advice, the students who responded “Yes” had significantly higher scores for inattention and reading/writing on the SCDS. Furthermore, compared to the students who responded “No” to whether they would ask senior students in the same department for advice, the students who responded “Yes” had a significantly higher score for learning-related difficulties.

## DISCUSSION

The learning scenario that caused PTC students the most difficulty was written examinations (35.0%). In addition, 585 students (76.4%) responded that they would ask a friend within the same class for advice if they encountered difficulties, which was the most frequent response. According to a survey conducted by the Japan Association of Private Universities and Colleges, “friends” ranked first as the immediate source of advice for college students with anxiety and worries,<sup>13</sup> a finding consistent with the results of the present study.

In terms of relations among the SCDS, RSES, and HSPS, we found that the SCDS score was significantly negatively correlated with the RSES score. Previous studies on self-esteem showed that people with mild developmental disabilities in adolescence tended to have low self-esteem.<sup>14, 15</sup> The present study also revealed that PTC students with a high SCDS score had a low RSES score. Second, students with a high SCDS score showed a significant negative correlation with the HSPS score. In other words, students who have difficulties may not seek help from those around them and may possibly not take any action to seek advice. On the other hand, Trammell et al. reported that students with disabilities sought help (i.e., met with professors) at a similar rate to their peers without disabilities,<sup>16</sup> indicating that further

investigation of factors related to self-perceived difficulties and help-seeking preferences is needed. It has been pointed out that difficulties faced by students and low help-seeking preferences could potentially be related to significant problems. Nishida et al. reported that adolescents with psychotic-like experiences and self-awareness of mental distress are at high risk for suicidal behavior, particularly those without help seeking.<sup>17</sup> In addition, the review by Richa et al. showed that having Autism Spectrum Disorder (ASD) is a risk factor for suicide in young people.<sup>18</sup> Hedley et al. examined 185 people aged 14–80 years with ASD and found that 49% of participants had scores in the clinical range for depression and 36% reported recent suicidal ideation.<sup>19</sup> In the present study of PTC students, an important point was that the score for anxiety/depression was highest among all sub-factors of the SCDS. Moreover, it is important from the perspective of adolescent mental health for higher education institutions such as PTCs to grasp the trends of developmental disabilities and depressive symptoms among students, and it is particularly important to make efforts to consider those who do not seek help. In other countries, given the increase in the number of students with developmental disabilities attending higher education institutions, the importance of such institutions providing transitional support has been pointed out.<sup>20, 21</sup> In Australia, mental health nurses and university staff are working to develop and evaluate programs to support transitioning to college for students with autism who have the capacity for higher education.<sup>22</sup> Thus, there is a need to promote longitudinal education support by higher education institutions.

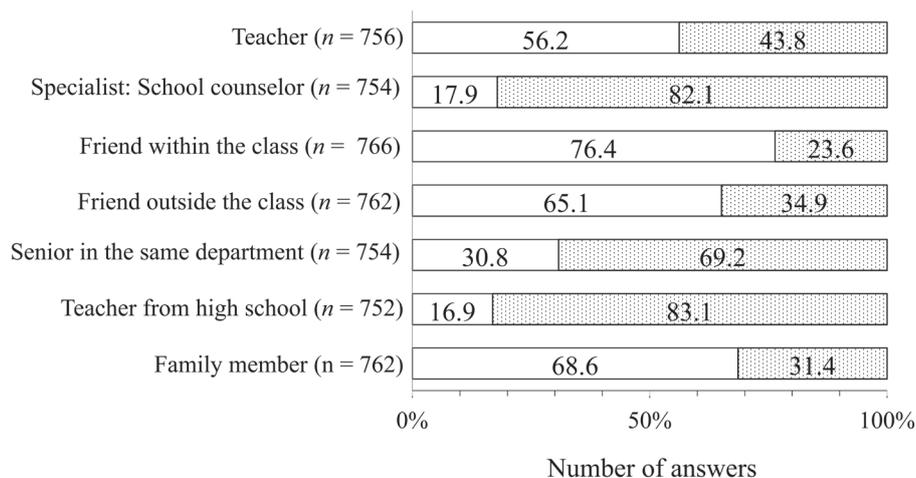
Next, it was suggested that teachers and friends within the same class might not serve as sources of advice for students with a high SCDS score, while specialists may potentially be a good source of advice

**Table 3. Relationships among the Self-Cognitive Difficulties Scale, Help-Seeking Preferences Scale, and Rosenberg Self-Esteem Scale**

Scale	Mean	SD	Median	Cronbach's $\alpha$	2	3
1. SCDS	2.2	± 0.5	2.2	0.920	-.166**	-.480**
2. HSPS	3.6	± 0.7	3.5	0.811	1	.107**
3. RSES	2.9	± 0.7	3.0	0.814		1

Spearman's rank correlation coefficient. \*\* $P < 0.01$ .

SCDS, Self-Cognitive Difficulties Scale; HSPS, Help-Seeking Preferences Scale; RSES, Rosenberg Self-Esteem Scale.



**Fig. 2.** Whether students would consult the indicated sources for advice. Responses to the following question are shown: “If you encounter difficulty in your school life and cannot solve the problem on your own, would you turn to the following people for advice?” For each source of advice, “Yes” is indicated by a blank bar and “No” is indicated by a dotted bar. As the source of advice, the highest number of students ( $n = 585$ , 76.4%) chose a “friend within the class,” followed by 523 students (68.6%) who chose a “family member,” 496 students (65.1%) who selected a “friend outside the class,” and 425 students (56.2%) who selected a “teacher.”

for these students. Looking at the sub-factors of the SCDS, our results suggest that students with high scores for interpersonal relationships, reading/writing, impulsivity, and learning-related difficulties are likely to consult specialists for advice. It was also suggested that students with high scores for inattention and reading/writing were more likely to turn to their previous high school teachers for advice, while those with a high score for learning-related difficulties were likely get advice from senior students in the same department. Why do students with a high SCDS score and high sub-factor scores tend to obtain advice from these sources? Nagai et al. performed a survey of junior high school students, and concluded that expectations of cost vs. benefit could affect their intention to request assistance.<sup>23</sup> In addition, Hartman-Hall et al. reported that university students with learning disabilities were most willing to seek help after reading a positive response from a professor and were least willing to seek help after reading a negative response from a professor.<sup>24</sup> From the results of these studies as well as the present study, it

seems that students who have specific difficulties might have obtained positive results in the past by consulting specialists, previous high school teachers, or seniors in the same department.

Therefore, unlike most students, there is a possibility that teachers and friends in the same class may not serve as sources of advice for students who have specific difficulties, and it is important to take this point into account when considering educational support. In particular, encouraging students to meet a specialist for counseling should be part of educational support that aims to promote expression of intentions by students with difficulties. Furthermore, a characteristic of PTC students is participation in off-campus practical training. To manage the transition from school to off-campus learning, collaboration between schools and practical training institutions is also important. Taken together, we believe that longitudinal joint educational support between higher education institutions and related institutions will enrich the learning and life of PTC students.

A challenge for the future lies in determining how

**Table 4. Relationship between Self-Cognitive Difficulties Scale scores and sources of advice**

Variable		SCDS	Inattention	Interpersonal relationships	Impulsivity	Reading/writing	Learning-related difficulties	Anxiety/depression	Sensory difficulties
		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Teacher	Yes	2.1 (0.5)	2.2 (0.6)	1.9 (0.7)	1.6 (0.6)	2.4 (0.7)	2.2 (0.6)	2.5 (0.8)	2.0 (0.8)
	No	2.2 (0.5)	2.3 (0.6)	2.0 (0.8)	1.6 (0.6)	2.4 (0.7)	2.3 (0.7)	2.7 (0.8)	2.1 (0.8)
	<i>P</i> -value*	0.044	0.323	0.017	0.988	0.458	0.182	0.001	0.428
Specialist: School counselor	Yes	2.3 (0.5)	2.3 (0.6)	2.2 (0.8)	1.8 (0.7)	2.5 (0.8)	2.4 (0.6)	2.7 (0.7)	2.2 (0.8)
	No	2.1 (0.5)	2.2 (0.6)	1.9 (0.7)	1.6 (0.6)	2.3 (0.7)	2.2 (0.6)	2.5 (0.8)	2.0 (0.8)
	<i>P</i> -value*	0.002	0.106	0.006	0.043	0.007	0.011	0.086	0.054
Friend within the class	Yes	2.1 (0.5)	2.2 (0.6)	1.8 (0.7)	1.6 (0.5)	2.4 (0.7)	2.2 (0.6)	2.5 (0.8)	2.0 (0.8)
	No	2.3 (0.5)	2.4 (0.7)	2.4 (0.8)	1.7 (0.7)	2.4 (0.8)	2.3 (0.7)	2.8 (0.8)	2.3 (0.8)
	<i>P</i> -value*	0.000	0.000	0.000	0.026	0.331	0.086	0.000	0.000
Friend outside the class	Yes	2.2 (0.5)	2.3 (0.6)	1.9 (0.7)	1.6 (0.6)	2.4 (0.7)	2.3 (0.6)	2.5 (0.8)	2.1 (0.8)
	No	2.2 (0.5)	2.3 (0.7)	2.1 (0.8)	1.6 (0.6)	2.4 (0.8)	2.2 (0.7)	2.6 (0.8)	2.0 (0.8)
	<i>P</i> -value*	0.406	0.699	0.010	0.942	0.307	0.513	0.037	0.546
Senior in the same department	Yes	2.2 (0.5)	2.3 (0.6)	1.9 (0.7)	1.7 (0.6)	2.4 (0.7)	2.3 (0.6)	2.5 (0.7)	2.0 (0.8)
	No	2.2 (0.5)	2.2 (0.6)	2.0 (0.8)	1.6 (0.6)	2.3 (0.7)	2.2 (0.6)	2.6 (0.8)	2.1 (0.8)
	<i>P</i> -value*	0.287	0.087	0.173	0.069	0.184	0.020	0.534	0.399
Teacher from high school	Yes	2.2 (0.4)	2.4 (0.6)	2.0 (0.8)	1.7 (0.6)	2.5 (0.7)	2.3 (0.5)	2.5 (0.7)	2.1 (0.8)
	No	2.2 (0.5)	2.2 (0.6)	2.0 (0.8)	1.6 (0.6)	2.3 (0.7)	2.2 (0.6)	2.6 (0.8)	2.2 (0.8)
	<i>P</i> -value*	0.140	0.002	0.571	0.157	0.002	0.401	0.101	0.635
Family member	Yes	2.1 (0.5)	2.2 (0.6)	1.9 (0.7)	1.6 (0.6)	2.4 (0.7)	2.2 (0.6)	2.5 (0.7)	2.2 (0.8)
	No	2.2 (0.5)	2.3 (0.6)	2.0 (0.8)	1.6 (0.6)	2.4 (0.7)	2.2 (0.6)	2.6 (0.8)	2.2 (0.9)
	<i>P</i> -value*	0.072	0.007	0.066	0.929	0.536	0.516	0.037	0.030

\*Mann-Whitney *U*-test

Yes, will consult. No, will not consult. SCDS, Self-Cognitive Difficulties Scale.

positive reactions of supporters might influence help-seeking preferences in each life stage, and a longitudinal survey will be needed to obtain data. By demonstrating its effectiveness, the availability of a seamless bridge between high school and PTCs will increase, thereby making it easier for students to learn as their self-esteem will be supported.

The present study had some limitations. First, we did not clarify the presence or absence of developmental disability diagnosis, and the sub-factors of the SCDS shown in this study are not all attributable to disabilities. Second, the subjects were limited to students attending 9 PTCs, and disproportionately included students attending medical PTCs. It is possible that the skills needed may differ depending on the profession for which students are training, and thus scores of the

SCDS may vary. Therefore, generalizability of the findings of this study may be limited because such differences were not taken into consideration.

In conclusion, the present study focused on PTC students with a high degree of self-perceived difficulties including possible developmental disabilities. The first major finding was that written examination was the learning scenario that caused these students the most difficulty, and the highest score was recorded for anxiety/depression. The second point is the possibility that students with a high SCDS score may have low self-esteem, and that their help-seeking behavior is also likely to be impaired. The third finding of this study was that PTC students with a high SCDS score were more likely to turn to specialists for advice. Furthermore, depending on their scores for the sub-factors of the

SCDS, students were more likely to obtain advice from specialists, their previous high school teachers, or seniors in the same department. It is considered that basing educational support on these points will promote expression of intentions by students at times when they are having difficulties.

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*The authors declare no conflict of interest.*

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