SHORT PAPER

Questionnaire Survey on the Prevalence of and Support for Selective Mutism at High School in Akita Prefecture

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ABSTRACT

This study aims to identify the prevalence of selective mutism (SM) in high school students and the level of support provided to them. We sent a questionnaire by post to 52 high schools in Akita Prefecture, Japan. The questionnaire asked if they had students who showed symptoms of SM, and, if so, to describe the type of support provided at the school for these students. Thirty-nine schools responded, reporting that 0.11\% of their students showed symptoms of SM. Additionally, the schools reported they were providing student support focused on speech difficulties. The results found that the prevalence of students with SM symptoms in high school was similar to that in elementary and middle schools. Moreover, the results identified the need not only for support focused on speech but also the need to adapt the students' environment to help alleviate their anxieties.

Key-words: Selective Mutism, High School, Questionnaire Survey, Prevalence, Support

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I. Introduction

Selective mutism (SM) refers to a state in which an individual, despite having no problems with the physical ability to talk, experiences difficulty speaking in social situations. The American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5), classifies SM as an anxiety disorder. The general procedure for improving SM symptoms is to provide behavioral therapy and other treatments at specialized institutions. However, it has been suggested that SM appears to carry a high risk of association with developmental disorders. Therefore, it is necessary to actively investigate the ideal method of support provided to students within the context of school education.

Studies in Japan targeted elementary and middle schools to investigate the enrollment status of children with SM symptoms. Muramoto investigated elementary and middle schools within the jurisdiction of Kamikawa County in Hokkaido and noted the prevalence of SM to be 0.04% in elementary schools and 0.03% in middle schools. Hisada et al. surveyed elementary schools in Kobe City and reported the prevalence to be 0.15%. The authors of this study have investigated the prevalence of SM at special needs schools in Akita Prefecture. Our results showed that SM prevalence in special needs schools (1.05%) was higher than in elementary and middle schools. It is worth noting that SM is more prevalent in high schools (1.36%), with many students exhibiting SM symptoms after reaching high school age among those enrolled in a special needs school. From these results, the prevalence of SM in high school students can be predicted to be lower than in elementary and middle school students. However, the actual percentage of SM is not known, and no investigations have yet focused on high school students.

In the field of education, behaviors that disrupt the class, such as leaving one’s seat, and other harmful behaviors are often considered as “problems.” However, since the main problem with SM is that the student cannot speak, the students are sometimes regarded as “problem-free” by teachers. Currently, support for SM is left to the discretion of teachers; therefore, students who cannot receive the support they need are not eligible. Gaining more knowledge about the kind of support that is provided is essential for considering the school adaptation of students who have SM symptoms.

This study conducted a questionnaire survey with high schools in Akita Prefecture to determine the enrollment status of students with symptoms of SM and the level of support being provided to them in schools.
II. Methods

1. Participants
The participants of our study were special support education coordinators (or the vice
principal, if a coordinator was not available) at high schools in Akita Prefecture.

2. Procedures
In early June 2022, a questionnaire was sent by post to 52 high schools (excluding
evening high schools) in Akita Prefecture. To encourage their understanding of SM, we
included information about the disorder and referred to the DSM-5’s diagnostic criteria.
Our survey aimed to gain a broad grasp of the actual state of students who showed SM
symptoms. Therefore, we did not inquire as to whether they had been medically diagnosed.
The deadline for answering the questionnaire was early July.

3. Ethical considerations
This study was implemented after obtaining the approval of the Ethical Committee of
the author’s affiliated institution. In the survey request form, we clearly stated that the
responses would be statistically processed, and that the privacy of the school and their
students would be rigorously protected. The decision to take part in the survey was left to
the discretion of each school.

4. Content of the questionnaire
1) Overall questionnaire
(1) The number of students enrolled
We asked for the total student enrollment in every school according to grade.

(2) Presence or absence of students who showed SM symptoms
We asked the respondents (the schools) if they had students who showed SM symptoms.
If their answer was “yes,” we asked how many students were identified as such, their
grade, and their sex and sought further answers using the individual questionnaire that
follows below. If there were multiple students, we asked the respondents to fill in one
sheet per student. If the respondents (the schools) answered “no,” the survey ended at that
point.

2) Individual questionnaire
(1) How the students were doing in school
The respondents were asked to describe, in their own words, how the students who
showed SM symptoms were performing during class and while engaged in club activities,
school events, and other similar activities.
(2) **Method of communication**

The respondents were asked to describe the method of communication used by students who showed SM symptoms (e.g., nodding and written communication).

(3) **The teachers’ feelings of facing a problem**

The respondents were asked to rate the teachers’ feelings of facing a problem when dealing with students who showed SM symptoms using a four-point scale (1: no problem; 2: not much of a problem; 3: something of a problem; and 4: facing a difficult problem).

(4) **Support provided at school**

The respondents were asked to describe, in their own words, the types of support the school provided to students who showed SM symptoms.

(5) **Tasks and challenges**

The respondents were asked to describe, in their own words, the difficulties they faced or things they were worried about when providing support.

5. **Analysis**

A total of 39 out of 52 schools returned the questionnaire, bringing the overall response rate to 75.0%. One school only provided answers to the overall questionnaire and did not return the individual questionnaires, citing protection of privacy as their reason. Considering there were no missing values, all the data in the overall and individual questionnaires were made the subject of analysis.

The responses for questions (1), (4), and (5), in the individual questionnaire, which were submitted in the respondent’s own words, were classified into categories using Yamaura’s integrated qualitative method (the KJ method) as a reference. The KJ method is a method of qualitative data analysis that provides a way to interpret data by recording the information on cards and grouping it based on what can be read from the cards.

In this study, the contents of the free descriptions in (1), (4), and (5) were carded, and major, minor, and sub-minor categories were generated and classified by discussing objectivity and validity among the authors (four researchers specializing in the fields of psychology and education). Whenever a discrepancy was found in the categorization, categories were generated after consultation.

The answers for item (5) were very few in number, and therefore, they were not classified into a category.
III. Results

1. Overall questionnaire

1) Enrollment status of students showing SM symptoms

Nine out of 39 schools (23.1%) answered that they had students who showed SM symptoms. A total of 14,131 students were enrolled in the 39 schools, of whom 15 showed SM symptoms, giving a prevalence rate of 0.11% (Table 1). Prevalence by sex was 0.14% for boys (10 out of 7,016) and 0.07% for girls (five out of 7,115).

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>5/2355 (0.21%)</td>
<td>1/2379 (0.04%)</td>
<td>6/4734 (0.13%)</td>
</tr>
<tr>
<td>2nd</td>
<td>2/2281 (0.09%)</td>
<td>2/2302 (0.09%)</td>
<td>4/4583 (0.09%)</td>
</tr>
<tr>
<td>3rd</td>
<td>3/2380 (0.13%)</td>
<td>2/2434 (0.08%)</td>
<td>5/4814 (0.10%)</td>
</tr>
<tr>
<td>Total</td>
<td>10/7016 (0.14%)</td>
<td>5/7115 (0.07%)</td>
<td>15/14131 (0.11%)</td>
</tr>
</tbody>
</table>

2) Enrollment status by school grade

Of the 4,734 first-grade students (2,355 boys and 2,379 girls), six (five boys and one girl) showed SM symptoms, a prevalence of 0.17%. Of the 4,583 second-grade students (2,281 boys and 2,302 girls), four (two boys and two girls) showed SM symptoms, a prevalence of 0.09%. Of the 4,814 third-grade students (2,380 boys and 2,434 girls), five (three boys and two girls) showed SM symptoms, making the prevalence 0.10%.

2. Individual questionnaire

We received 12 sheets of answers from eight of the nine schools that answered they had students who showed SM symptoms. The results of those answers are shown below.

1) How the students were doing in school

There were 34 cards pertaining to how the students were doing in school. As a result of the classification, which was discussed among the authors for objectivity and validity, the content was divided into three main categories: when communicating with others (n=17), during class (n=12), and club and committee activities (n=5) (Table 2).

In the “When communicating with others” section, items were categorized into three
minor categories: teachers (n=9), friends (n=5), and common or shared (n=3). The following answers regarding the students were cited for the teachers category: Appears paralyzed when spoken to (n=3); will talk if engaged on a one-on-one basis (n=2); is unable to talk if engaged with one-on-one (n=1); talks actively only to teachers (n=1); talks a little after becoming used to it (n=1); and stops talking completely when in the wrong, but surprisingly talkative when not in the wrong (n=1). The following answers were cited for the Friends category: talks with selected friend(s) (n=4) and will talk with classmates but is mostly quiet (n=1). “No communication possible at all (n=3)” was cited for the Common/Shared category.

The items of the “During class” section were classified into two minor categories: responses to questions (n=7) and behaviors while giving presentations and doing group work (n=4). The following answers were cited for the “Responses to Questions” category: Cannot respond at all (n=3), responds but is not audible (n=2), and can respond although it takes time (n=2). The following were cited as the “Behaviors during presentations and group work” category: can respond, although it takes time (n=2); cannot talk at all (n=1); and there are times when the student can talk and times when they cannot (n=1).

The items in the “Club and committee activities” section were classified into two categories: Speech during activities (n=3) and expression of their personal wishes during activities (n=2). “Talks actively (n=3)” was cited for the former category, and “no expression whatsoever of personal wishes (n=2)” was cited for the latter category.
<Table 2> How the students \( (n = 34) \) were doing in school

<table>
<thead>
<tr>
<th>Major category</th>
<th>Minor category</th>
<th>Sub-minor category</th>
</tr>
</thead>
</table>
| I. When communicating with others \( (n = 17) \) | 1. Teachers \( (n = 9) \) | 1) Appears paralyzed when spoken to \( (n = 3) \)  
2) Will talk if engaged on a one-on-one basis \( (n = 2) \)  
3) Becomes unable to talk if engaged with one-on-one \( (n = 1) \)  
4) Talks actively only to teachers \( (n = 1) \)  
5) Talks a little after becoming used to it \( (n = 1) \)  
6) Stops talking completely when in the wrong but becomes talkative when not in the wrong \( (n = 1) \)  
2. Friends \( (n = 5) \) | 1) Talks with selected friend(s) \( (n = 4) \)  
2) Will talk with classmates but is mostly quiet \( (n = 1) \)  
3. Common or Shared \( (n = 3) \) | 1) No communication possible at all \( (n = 3) \) |
| II. During class \( (n = 12) \) | 1. Responses to questions \( (n = 7) \) | 1) Cannot respond at all \( (n = 3) \)  
2) Responds, but not audible \( (n = 2) \)  
3) Can respond although it takes time \( (n = 2) \)  
2. Behaviors while giving presentations and doing group work \( (n = 4) \) | 1) Can respond although it takes time \( (n = 2) \)  
2) Cannot talk at all \( (n = 1) \)  
3) There are times when the student can talk and times when they cannot \( (n = 1) \)  
3. Others \( (n = 1) \) |
| III. Club and committee activities \( (n = 5) \) | 1. Speech during activities \( (n = 3) \) | 1) Talks actively \( (n = 3) \)  
2. Expression of their personal wishes during activities \( (n = 2) \) | 1) No expression whatsoever of personal wishes \( (n = 2) \) |

2) Method of communication

The most frequently cited method of communication (Table 3) was nodding and shaking of the head. The other recorded methods were oral conversation, conversation via selected friend(s), and choosing from the options given.
3) The teachers' feelings of facing a difficult problem

Two teachers (16.7%) were not having any problems; six (50.0%) were not having too much of a problem; two (16.7%) were facing something of a problem; and two (16.7%) were facing a difficult problem.

4) Support provided at the school

There were 20 cards pertaining to support provided at the school. As a result of the classification, which was discussed among the authors for objectivity and validity, the content was classified into four major categories: support for engaging in communication (n=8), adaptations made during class (n=7), implementation of individual interviews (n=3), and no support provided (n=2) (Table 4).

The following answers were cited for the “Support for engaging in communication” category: asking questions that are easy to answer (n=3), having selected friend(s) sit close by them (n=3); communicating in writing (n=2), and waiting until the student begins talking (n=1). The following categories were cited for the “Adaptations made during class” section: avoiding calling on the student (n=4), not requiring presentations to be made individually (n=1), having a friend sitting next to the student to speak for them (n=1), and informing the student beforehand that they will be called on (n=1). The following categories were cited for the “Others” section: inquiring about the student’s thoughts by conducting regular one-on-one interviews (n=3) and no particular support being provided (n=2).

<table>
<thead>
<tr>
<th>Table 3: Method of communication (n = 18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nodding and shaking of the head (n = 7)</td>
</tr>
<tr>
<td>Oral conversations (n = 6)</td>
</tr>
<tr>
<td>Conversations via selected friend(s)</td>
</tr>
<tr>
<td>Choosing from the options given (n = 1)</td>
</tr>
</tbody>
</table>

DOI: http://dx.doi.org/10.14391/ajhs.24.126
Asian Journal of Human Services, VOL.24 126-136
Support being provided at the school (n = 20)

<table>
<thead>
<tr>
<th>Major category</th>
<th>Sub-minor category</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Support for engaging in</td>
<td>1) Asking questions that are easy to answer (n = 3)</td>
</tr>
<tr>
<td>communication (n = 8)</td>
<td>2) Having selected friend(s) sit close by them (n = 3)</td>
</tr>
<tr>
<td></td>
<td>3) Communicating in writing (n = 2)</td>
</tr>
<tr>
<td></td>
<td>4) Waiting until the student begins talking (n = 1)</td>
</tr>
<tr>
<td>II. Adaptations made during</td>
<td>1) Avoiding calling on the student (n = 4)</td>
</tr>
<tr>
<td>class (n = 7)</td>
<td>2) Not requiring presentations to be made individually (n = 1)</td>
</tr>
<tr>
<td></td>
<td>3) Having a friend sitting next to the student to speak for them (n = 1)</td>
</tr>
<tr>
<td></td>
<td>4) Informing the student beforehand that they will be called on (n = 1)</td>
</tr>
<tr>
<td>III. Implementation of individual interviews (n = 3)</td>
<td>1) Inquiring about the student’s thoughts by conducting regular one-on-one interviews (n = 3)</td>
</tr>
<tr>
<td>IV. No particular support being provided (n = 2)</td>
<td>1) No particular support being provided (n = 2)</td>
</tr>
</tbody>
</table>

5) Tasks and challenges

There were six cards pertaining to tasks and challenges. As a result of the classification, which was discussed among the authors for objectivity and validity, the following categories were cited for the same: academic and career guidance and counseling (n = 3), the fact that the student made no requests whatsoever (n = 2), and lack of shared understanding among the teachers (n = 1).

IV. Discussion

Suzuki et al. surveyed the enrollment of students with symptoms of SM in special needs schools and pointed out that the prevalence of SM was highest at the high school level,
with most students having entered such schools after starting high school. Because of this, we anticipated that the prevalence of SM in high school students would be lower than that of elementary and middle school students. However, our results showed that the prevalence of SM in high school students was 0.17%. This is close to the ratio seen in earlier studies that investigated the prevalence of SM in elementary and middle schools. Therefore, it can be inferred that approximately similar percentage of children with symptoms of SM are enrolled in high school as in other schools.

However, Suzuki et al. did not examine the circumstances of students' entry from high school, and the degree of SM and the presence or absence of coexisting developmental disabilities in the students that were in question were not clarified. As such, it may be that students with relatively mild symptoms of SM and whose condition does not cause problems in school may enter high school. Future research should be conducted to determine which students have SM symptoms conditions choose to attend special needs schools (or high schools) when entering high school.

When asked about how the students were doing in school, the respondents cited not only the students' difficulties in speaking but also the situations in which they found themselves able to talk. When asked about the method of communication, none of the respondents cited “none whatsoever.” Instead, they cited strategies such as verbalization and gestures. Regarding the teachers' feelings of facing difficulties, approximately 70% answered that they were not having any problems or were not having too much of a problem. However, the results do not indicate that most children with symptoms of SM enrolled in high school do not face challenges in school lives. We must keep in mind that the teachers' “feelings of facing difficulties” are not necessarily the same as those of the students.

The support provided in school focuses mainly on the student difficulties with speaking. It was divided into two types: support to encourage the students to speak, such as asking them questions that are easy to answer, and support that offers methods that enable the students to express their wishes without speaking, such as having a friend speak for them. These instances of support may be effective in ensuring that students with SM symptoms have their own means of expressing their intentions. Suzuki et al. revealed that special needs schools offered two types of support: support for difficulty speaking and support for adapting to the school environment. The researchers added that the latter type of support was aimed at alleviating student anxiety, such as by carrying out the same activity repeatedly.

In consideration of the characteristics of SM, support tends to focus on speech difficulties. However, in order for students to engage in school activities safely, it is necessary not only to secure a means of expressing their will but also to improve their living environment to reduce anxiety. Because of the unique characteristics of SM, support tends to be focused on speech difficulty. However, to ensure that students can lead their lives at school in a stress-free frame of mind, it is necessary to offer assistance that is
designed to alleviate anxiety by adapting their living environment.

This study investigated the number of children with symptoms of SM in high school and found that the prevalence of SM was approximately the same as in other school types. In addition, the school's support activities revealed that priority is given to helping students secure a means of expressing their will. Our study used a small sample of high schools in Akita Prefecture. There remains a need to gain a better picture of the prevalence of SM by conducting a larger-scale investigation in the future.

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PUBLISHED BY
ASIAN SOCIETY OF HUMAN SERVICES
YAMAGUCHI, JAPAN