

The effects of symptoms, diagnostic labels, and education in psychiatry on the stigmatization towards schizophrenia: a questionnaire survey among a lay population in Japan

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Abstract

This questionnaire survey was conducted to study the determinants of stigmatization toward schizophrenia in Japan. A total of 1003 persons living in Kumamoto Prefecture (mean age 25.5; SD=14.1) participated in this study through convenience sampling. They read one of four case vignettes about a person with mental illness and answered questions about their attitudes toward the case. Vignettes varied in terms of descriptions of symptoms (schizophrenia *vs.* depression) and presentation of the diagnostic label of *schizophrenia* (yes or no). A path analysis was performed to examine the effects of symptoms, diagnostic label, experience of education in psychiatry, and demographic features on stigmatizing attitudes. Results showed that schizophrenic symptoms, diagnostic label of *schizophrenia*, and experience of education in psychiatry were significantly associated with stigmatization toward the case. Interaction terms of these variables did not show significant association with stigmatization. These results highlight the importance of optimizing education techniques about mental illness so as to avoid cultivating stigmatizing attitudes toward schizophrenia.

Introduction

Stigmatization toward mental illness has long been a serious social issue in many countries worldwide¹ and it causes negative effects on life of people with mental illnesses.² For instance, people with mental illness reported discrimination in making or keeping friends, from family and other people, and finding or

keeping a job and more.^{3,4} Moreover, people with mental illness recognize stigma decline or worse his or her self-esteem,⁵ psychological well-being and life satisfaction,⁶ and reluctant to help-seeking.⁷ Therefore, stigma toward mental illnesses is regarded as a barrier to recovery.⁵ In particular, stigmatization toward schizophrenia is more severe than toward other mental illnesses,⁸ thus the impacts of stigmatization on people with schizophrenia may be more serious. The causes underlying the stigmatization toward schizophrenia are important from both clinical and research perspectives.

Symptoms of schizophrenia usually seem so strange to lay people that they are easily recognized as manifestations of a disorder. Symptoms such as bizarre delusions are difficult to understand. Hence, symptoms of schizophrenia may lead to stigmatization by a non-professional population. A case vignette study among university students revealed that delusional disorder vignette was most judged incapable of moral judgements followed by schizophrenia than other vignettes such as depression and obsessive-compulsive disorder.⁹ This suggests that delusional symptoms may result in concluding that those affected the lack of capacity to make moral judgments across diagnostic labels. Another possible source of stigma toward schizophrenia is the diagnostic label of schizophrenia. The terms *mental illness*, and *schizophrenia* in particular, generally have negative connotations. In television dramas, characters described as mentally ill are more likely to be violent.¹⁰ Additionally, media descriptions of people with mental illness are often negative.¹¹ Case presentations containing only the description *ex-mental patient*, with no symptomatic or behavioral descriptions, results in stigmatization (*e.g.*, Skinner *et al.*).¹² The term *schizophrenia* is a composite word derived from the Greek words *split* and *mind*. This terminology is stigmatizing but the Japanese label may be even more so: *seishin-bunretsu-byou*, a composite of Chinese characters meaning *split spirit (or soul) disease*. The message is easily understood by lay people because of their familiarity with Chinese characters. This label was renamed as *tougou-shichoushou (disintegration disorder)* in 2002, however, the negative impact of the label as *seishin-bunretsu-byou* is widespread among Japanese people since it was coined in the early 20th century. Sugiura *et al.*¹³ studied the attitudes of Japanese university students toward case vignettes of schizophrenia and depression. They provided two cases for each diagnosis. The following additional description was then provided for the label group but not the control group: *Mr. A. (imaginary case) went to a hospital and was diagnosed as suffering from schizophrenia/depression*. The label group had significantly higher negative image scores

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than the control group for the schizophrenia vignette. They did not, however, differ for the depression vignette. This suggests that the label *seishin-bunretsu-byou* (schizophrenia) has a greater stigmatizing effect on lay people than *depression*. This study is limited because although the term *seishin-bunretsu-byou* increased students' negative attitudes toward cases of schizophrenia (with schizophrenic symptoms described), the effect may have resulted from the combination of the diagnostic label *schizophrenia* and the descriptions of schizophrenic symptoms. It remains unclear whether such diagnostic labels increase negative attitudes toward other mental illnesses such as depression.

Finally, we presumed that people would have less stigmatized attitudes toward people with schizophrenia if they were well educated about the illness. Personal acquaintance with people undergoing psychiatric treatment was found to be associated with less social distance toward mental illness in general in Canada,¹⁴ and toward schizophrenia or depression in Germany.¹⁵ Lay persons who knew no one with a mental illness were more likely to have socially controlling attitudes toward people with a mental illness.¹⁶ Such attitudes were observed more often among older and less educated people.¹⁷ Brockington *et al.*¹⁸ reported that fear of the mentally ill was associated with

lower education and no acquaintance with a person with a mental illness, whereas authoritarian and restrictive attitudes were associated with lower education and lower social class. These earlier studies investigated participants' acquaintance with people with a mental illness but failed to examine the effect of medical knowledge of psychiatric disorders: a key component of mental health literacy. Many anti-stigma activities provide education about mental illnesses including schizophrenia.¹⁹ However, it remains to be investigated whether and how much stigmatizing attitudes toward mental illnesses are associated with knowledge in psychiatry.

This study investigated the effects of symptoms, diagnostic labels, and education in psychiatry on stigmatization toward schizophrenia (and depression) in a non-clinical, non-mental health professional population in Japan. Our research questions were threefold. First, we investigated whether symptoms of schizophrenia were associated with stigmatization toward schizophrenia. Second, we assessed whether diagnostic labels were associated with stigmatization toward schizophrenia. We were also interested in the interaction effect of the two. Link *et al.*²⁰ found that lay people's social distance to case vignettes of mental illness was higher when a description of previous hospitalization was provided (reflective of psychiatric diagnosis). Finally, we were interested in whether the experience of education of psychiatry would have a preventive impact on stigmatization toward schizophrenia. To address these questions, we conducted a questionnaire survey among community sample in Japan.

Materials and Methods

Participants

This questionnaire survey was conducted in collaboration with people living in Kumamoto Prefecture, Japan. We recruited study participants through personal contacts in a variety of fields in the Prefecture. We did not solicit participation from medical students and medically qualified people. Hence, this was not a representative sample of a general population, but rather a convenience sample.

Case vignettes

We prepared four types of case vignettes: two vignettes describing depression and two describing schizophrenia (Appendices). One of the case vignettes of depression and one of schizophrenia included a diagnostic label by means of the phrase: *this person was diagnosed with schizophrenia*. It should be noted that one of the depression vignettes included the

phrase *diagnosed as schizophrenia* (incorrect diagnosis) at the end of description.

Stigmatization toward schizophrenia

Study participants were asked to answer six questions (see Appendices) about attitudes toward the case vignettes such as belief regarding the possibility of recovering, need to conceal about the condition, competence of moral judgement, pity, the possibility of returning normal life, and unpredictability using dichotomous response options. All questions and answers are shown in the Appendices. One of the dichotomous options reflected a less stigmatizing attitude (coded 0), while the other reflected a more stigmatizing attitude (coded 1). The scores of these six questions were summed to yield the Stigma Scale, with a range of 0 to 12. A higher score indicated more stigmatizing attitudes toward the case. Cronbach's alpha of whole questions was 0.66, and skewness of distribution was 0.15.

Education in psychiatry

A single-item question asked whether the participant had received education in psychiatry (yes, 1; no, 2). In this study, education in psychiatry was defined as formal education in psychiatry.

Demographics

Participants were only asked to specify age, gender and occupation.

Procedures

Participants were randomly assigned to one of the four case vignettes: two cases (schizophrenia *vs.* depression) \times two labelling conditions (disclosed *vs.* non-disclosed for schizo-

phrenia diagnosis). They were requested to read the vignette and answer questions about their attitudes toward the person described in the case vignette. This study was conducted in 2001 when the term *seishin-bunretsu-byou* was still in use.

Ethics

This research project was approved by the Ethical Committee of Kumamoto University Graduate School of Medical Sciences.

Statistical analyses

We compared participants assigned to each of the four case vignettes in terms of age, gender, and experience of education in psychiatry.

Then we calculated the means and SDs of all variables (and the interaction term between disclosures of the schizophrenia diagnostic label \times schizophrenic symptoms) used in this study and correlated them. A structural equation model (SEM) was applied to conduct a path analysis testing the relationships between stigmatization and symptoms, diagnostic label, and education. Our hypothesis model is presented in Figure 1. The fit of the model with the data was examined in terms of chi-squared (CMIN), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). According to conventional criteria, a good fit would be indicated by CMIN/df < 2, AGFI > 0.90, CFI > 0.97, and RMSEA < 0.05, while CMIN/df < 3, AGFI > 0.85, CFI > 0.95, and RMSEA < 0.08 demonstrate an acceptable fit.²¹

All the statistical analyses were conducted using IBM SPSS Statistics 19.0 and IBM Amos 20.0.

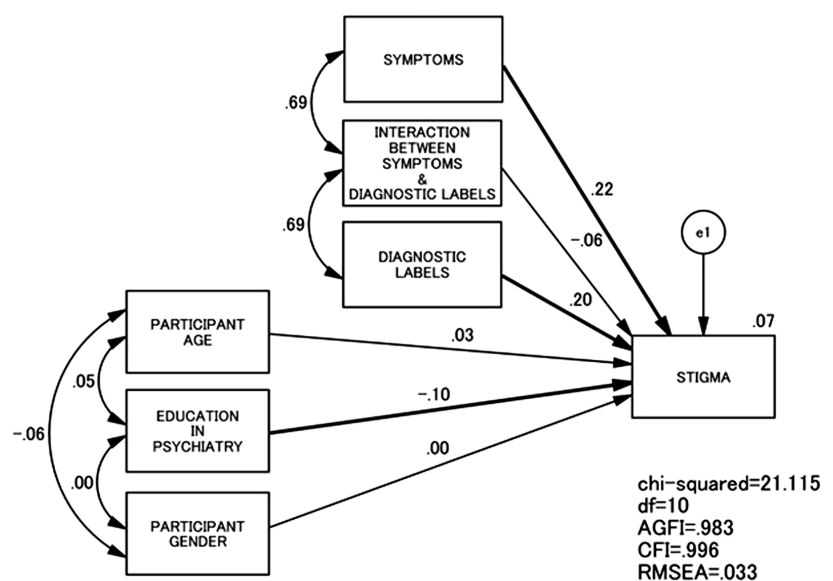


Figure 1. Structural equation model of stigmatization (n=1003).

Results

Total of 1148 participants recruited to this study, and 145 were excluded from the analysis because of missing values. The final analysis was conducted using data from 1003 participants. Table 1 shows socio-demographic status of participants. There were no significant differences among the four groups in any demographic variable except gender ($P=0.005$) (Table 1). Correlations of all variables are presented in Table 2. Diagnostic label, symptoms of schizophrenia, the interaction term between diagnostic label and schizophrenia symptoms, and experience of education in psychiatry were significantly correlated with Stigma Scale scores.

The SEM path analysis showed a good fit of the model to the data: $CMIN/df=2.112$, $AGFI=0.983$, $CFI=0.996$, and $RMSEA=0.033$ (Figure 1). Diagnostic label of schizophrenia and symptoms were both significantly ($P=0.037$ for diagnostic label, $P=0.021$ for symptoms) associated with the Stigma Scale scores. However, the interaction term (Schizophrenia diagnostic label \times schizo-

phrenic symptoms) failed to yield a significant contribution to the Stigma Scale scores ($P=0.662$). Unexpectedly, education in psychiatry showed a *negative* association with the Stigma Scale scores, with no education in psychiatry being linked to lower Stigma scale scores ($P=0.001$). Age and gender of participants were not significantly ($P=0.349$ for age, $P=0.890$ for gender) associated with Stigma Scale scores (Figure 1).

Discussion

This study showed that lay people's stigmatizing attitudes toward people with mental illness were predicted not only by specific symptomatic features but also by the label of *schizophrenia* as well as by psychiatric education. The interaction between symptoms and diagnosis was not significant.

The finding that symptoms of schizophrenia were more stigmatizing than depressive symptoms suggests that stigma toward people with a mental illness is derived at least partly from specific symptomatology. Compared to depres-

sion, symptoms of schizophrenia may be more difficult to engender empathy or viewed as a continuation of general and common psychological states such as depressive mood. Thus, symptoms of schizophrenia may be seen as unpredictable or frightening, leading to stigmatizing attitudes. A case describing paranoid symptoms was found to be rated as less acceptable than one portraying a normal individual, *regardless* of diagnostic label (*mentally ill, wicked, or under stress*).²² This echoes a study by Sugiura *et al.*¹³ in Japan showing that students viewed a person with delusional disorder as incapable of making moral judgements. The schizophrenia case in our study was the one with thought broadcasting, a bizarre delusion. Further studies should compare the stigmatizing effects of a wide range of symptoms, both positive and negative. Little has been studied thus far, as to the relation between illness duration and the development of stigmatizing attitudes. An acute illness may be less stigmatizing than one with a chronic course.

As expected, diagnostic label was also significantly related to stigma. This result implies that people are more likely to stigmatize those with mental illness when they are labelled as

Table 1. Participants' demographic variables.

	Total (n=1003)	Vignette A (n=260)	Vignette B (n=247)	Vignette C (n=247)	Vignette D (n=249)	P-value
Age, mean (SD)	35.5 (14.1)	36.1 (15.7)	34.6 (13.7)	35.6 (13.2)	35.7 (13.8)	0.707*
Gender, n (%)						0.005 ^o
Male	461 (46.0)	107 (41.2)	125 (50.6)	130 (52.6)	99 (39.8)	
Female	542 (54.0)	153 (58.8)	122 (49.4)	117 (47.4)	150 (60.2)	
Occupation, n (%)						0.147 ^o
Student	248 (26.5)	74 (30.1)	68 (29.7)	49 (21.9)	57 (24.1)	
Housewife	100 (10.7)	30 (12.2)	17 (7.4)	27 (12.1)	26 (10.1)	
Part timer	51 (5.5)	9 (3.7)	10 (4.4)	13 (5.8)	19 (8.0)	
Full timer	237 (57.4)	133 (54.1)	134 (58.5)	135 (60.3)	135 (57.0)	
Unknown	67 (6.7)	14 (5.4)	18 (7.2)	23 (9.3)	12 (4.8)	
Experienced education on psychiatry, n (%) 0.105 ^o						
Yes	229 (22.8)	60 (23.1)	61 (24.7)	43 (17.4)	65 (26.1)	
No	774 (77.2)	200 (76.9)	186 (75.3)	204 (82.6)	184 (73.9)	

*One-way ANOVA; ^ochi-square test. Vignette A: depression case without schizophrenic label; Vignette B: depression case with schizophrenic label; Vignette C: schizophrenia case without schizophrenic label; Vignette D: schizophrenia case with schizophrenic label.

Table 2. Correlates of variables (n=1003; Pearson's correlation).

	1	2	3	4	5	6	7
1. Stigmatization	-	0.18***	0.17***	0.24***	-0.10**	0.02	-0.01
2. Symptoms (depression 1; schizophrenia 2)		-	0.02	0.69***	0.03	-0.01	0.00
3. Diagnostic labels (without 1; with 2)			-	0.69***	-0.06	-0.02	0.02
4. Symptoms \times Diagnostic label				-	-0.03	0.00	0.03
5. Education (yes 1; no 2)					-	0.05	0.00
6. Age						-	-0.06
7. Gender (men 1; women 2)							-
Mean	2.75	1.49	1.49	2.24	1.77	35.50	1.54
SD	1.78	0.50	0.50	1.09	0.42	14.10	0.50

* $P<0.05$; ** $P<0.01$; *** $P<0.001$.

schizophrenic. Once a person is aware of the label, he or she may recall stigmatizing images related to mental illness. Furthermore, this study was conducted in 2001, when schizophrenia was still termed *seishin-bunretsu-byou* in Japan. This label may suggest a poor prognosis, thus encouraging stigmatizing attitudes toward schizophrenia. Our results echo the findings of Link and Cullen,²³ who found that the label of *ex-mental patient* was associated with social distance even among cases of anxiety neurosis. The interaction term between symptoms and diagnostic label showed no significant relation to stigma, suggesting that the diagnostic label of schizophrenia results in stigmatizing attitudes regardless of actual symptomatology.

We expected that knowledge about psychiatry and schizophrenia would form the basis for better understanding the condition and hence encourage empathetic attitudes toward people with schizophrenia. Jorm²⁴ pointed out that much of the mental health information most readily available to the public is misleading.²⁴ For example, the media tend to portray mental illnesses in a negative light.² The association between diagnostic labels, symptoms, and stigmatizing attitudes found in previous investigations may be due to such negative information. Contrary to our expectations, however, experience of psychiatry education was associated with more stigmatizing attitudes. Mental health education provides accurate knowledge about schizophrenia, but it also gives people awareness of psychiatric symptoms and may encourage the point of view that people with schizophrenic symptoms are *psychiatric patients* or *schizophrenia patients*.

Education of psychiatry may provide people with an exaggerated or erroneous image of schizophrenia. Angermeyer *et al.*²⁵ reported that biogenetic causal models are an inappropriate approach to reducing rejection of people with mental illness. Such explanations in education might have adverse effect on anti-stigma efforts.

Furthermore, psychiatric education in Japan has long viewed schizophrenia as a persistent and incurable illness. Contrary to treatment guidelines, psychiatrists often recommend indefinite administration of antipsychotic medications. These approaches to schizophrenia may lead to stigmatizing thoughts in those familiar with psychiatry in Japan. However, mental health education is essential not only for health care professionals but also lay people. Thus, the development of effective educational programs that do not generate stigmatizing attitudes toward schizophrenia and other mental illnesses is of vital importance. For example, Penn *et al.*²⁶ demonstrated that the case vignette describing post-treatment arrangements reduced negative judgments about a schizophrenia case vignette among

undergraduate students. This study, however, lacked pre-post comparisons of stigmatizing attitudes. In order to dispel prejudice and stigma toward people with schizophrenia, mental health educators should be sensitive to the *stigmatizing* effects of psychiatric information as well as be encouraged to create a better means of educating lay people and medical students to the direction of anti-stigmatization and destigmatization. Before concluding, we should note several limitations of this study. First, this study was conducted in 2001. This was before the Japanese designation of schizophrenia was changed to *tougo-shiccho-shou*, which is believed to be less stigmatizing than *seishin-bunretsu-byo*. After renaming, it was reported that public stigma toward schizophrenia were diminished in lay people^{27,28} and clinical residents before contact with patients with schizophrenia.²⁹ Thus, the effects of diagnostic labels on the stigmatization toward schizophrenia may have diminished by now. Second, this study revealed the effects of education of psychiatry on stigmatization; however, this study selectively excluded medical students and medically qualified people. Therefore, the impact of education of psychiatry in medical education on stigma is unclear. Future studies should evaluate the impact of education and develop effective ways in education to reduce stigmatizing attitudes.

Conclusions

In conclusion, this study revealed the effects of symptoms, diagnostic labels, and education on stigmatization toward people with schizophrenia. Unexpectedly, experience of education in psychiatry demonstrated a negative impact on lay people's attitudes. Less stigmatizing educational method should be developed.

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