

## Schizophrenic Delusions in Seoul, Shanghai and Taipei : A Transcultural Study

In this transcultural study of schizophrenic delusions among patients in Seoul, Shanghai and Taipei, we discovered that both the frequency and content of delusions differed among the three groups; and that these differences could perhaps be explained by varying sociocultural and political situations. Delusional themes that are sensitive to sociocultural or political situations include guilt, love/sex, religion, somatic damage, economy/business and politics. Delusions regarding longevity, love/sex, dysmorphophobia/dysosmophobia, religion or supernatural matters, and espionage/spy stories were most frequent in Seoul patients. Those in Taipei predominantly had delusions about possession, religion or supernatural matters, hypnotism, and mass media/computers. Shanghai patients often had delusions of poisons, being pricked by poisoned needles, their brain and viscera extracted and being a family member of political authorities.

**Key Words:** Schizophrenia; Delusions; Culture; Psychopathology

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## INTRODUCTION

The content of schizophrenic delusions is mostly influenced by the sociocultural background of the patients. Possible cultural mechanisms in the formation of delusional contents include: 1) cultural sources for interpreting primary unusual experience, 2) cultural expectation and suggestion with regard to an individual's response to the primary symptom and 3) conventional choice of the target in the projection of inner conflict (1, 2). Therefore, different cultural experiences of the individual can result in different delusional form and content.

Transcultural comparison of delusions has been an interesting subject in cultural psychiatry since the time of Kraepelin (3). However, well-controlled transcultural studies of schizophrenic delusions are lacking. The relatively well-designed transcultural studies we have encountered thus far include the WHO international study of schizophrenia (4); the comparative study among various subcultural groups by Ndeti and Vadher (5); study of patients in Japan and China by Fujimori et al. (6); comparison

among Koreans, Korean-Chinese and Chinese by Kim et al. (7); investigation into two subcultures of Malaysia by Azhar et al. (8); study of the Japanese and Germans by Tateyama et al. (9); and comparison among patients in Tokyo, Vienna and Tbingen by Tateyama et al. (10).

In this transcultural study of schizophrenic delusions, we compared delusions among patients from diverse cultures; the Koreans in Seoul, South Korea, the Taiwanese in Taipei, Taiwan and the Chinese in Shanghai, China. Our purpose was to identify both common and different features of schizophrenic delusions in the three cultures and to attempt to understand how the sociocultural situation of each culture may have contributed to the difference.

## SUBJECTS AND METHODS

### Subjects

A total of 650 patients with schizophrenia consisting

of 240 cases in Seoul, 255 cases in Shanghai, and 155 cases in Taipei were initially surveyed during the months of January and February 1999. These patients were among those who are admitted to the following institutions: the National Seoul Mental Hospital and Hanyang University Hospital in Seoul; the Shanghai Mental Health Center in Shanghai; and the Taiwan University Hospital, Taoyuan Psychiatric Center, and Pali Psychiatric Center in Taipei. DSM-IV diagnostic criteria were used for assessment. Among the patients initially surveyed, 599 cases (92.2% in total; 93.4% in Seoul; 90.8% in Shanghai, and 91.6% in Taipei) were confirmed to have at least one type of delusions. These patients were assessed with the stratification in five areas: sample size, sex, age, educational status and symptoms longevity (years from onset). Accordingly, 169 cases were excluded, and 430 cases were selected as subjects for our study: 143 patients in Seoul, 147 patients in Shanghai and 140 patients in Taipei. The demographic and clinical data of the 430 subjects are presented in Table 1.

## Methods

Before the interviews for symptom assessment, the researchers from each city had three sessions of research meeting for coordinating methods of sampling and assessment. The psychiatrist in charge of each patient ascertained the content of delusions with semi-structured interviews. Before the interviews, each researcher had two sessions of workshop for interview methods with all the psychiatrists in charge.

This psychopathological assessment was performed for at least one month after the final diagnosis. The interview form consisted of 19 questions regarding various types of delusions. The questions were originally written in English and then translated into each native language by bilingual psychiatrists. Psychiatrists collected all the

information as presented by each patient and recorded the details verbatim. Each verbatim report from Taipei and Shanghai was translated into Korean by a bilingual Korean-Chinese psychiatrist and was carefully read by the first author. The delusions were classified into 9 categories: nihilistic delusions, delusions of poverty, somatic delusions, delusions of grandeur, persecutory delusions, delusions of reference, delusions of guilt, delusions of control and delusions of jealousy. The contents of the delusions were further subcategorized into 21 themes (Table 3). Where the persecutory delusions were elicited, the persecutor was identified. After the data analysis, co-researchers had two occasions of meeting for interpretation and discussion.

## Characteristics of study areas and hospitals

Seoul, the capital of South Korea, is a large metropolitan area with 10.3 million residents and boasts a capitalistic, open society. The Koreans are an ancient and homogenous people with their own language, character and culture. Shanghai, with 13.5 million residents, has the distinction of being the most Westernized as well as the large city in the People's Republic of China, a country where still maintains a communist political system. However, since the government began opening economic doors to Western influences a decade ago, Shanghai has become the most open area in mainland China. Taipei is the capital of Taiwan with 2.7 million residents. Taiwan is a capitalistic, open society where intensive industrialization has resulted in economic success worldwide.

The National Seoul Mental Hospital has 900 beds, 80% of which are occupied by chronic patients, whereas the Department of Psychiatry, Hanyang University Hospital is an intensive care unit with 50 psychiatric beds, mostly housing acute cases. The Shanghai Mental Health Center is a large mental hospital with 2,500 beds (80%

**Table 1.** Demographic and clinical data of the subjects

Variables	Seoul	Shanghai	Taipei	Total	$\chi^2$ or F	<i>p</i> value
Sample size	143	147	140	430		
Male %	57.3	63.3	54.3	58.4	2.473	0.290
Mean age (yr) (S.D.)	34.2 (11.3)	36.5 (11.4)	33.5 (11.1)	34.7 (11.2)	2.828	0.060
Mean educational year (S.D.)	11.5 (3.1)	11.2 (3.0)	11.2 (3.3)	11.3 (3.0)	0.280	0.756
Religious affiliation (%)	42.7	4.1	62.9	36.0	111.517	0.001
Mean years from the onset (S.D.)	10.7 (8.2)	8.8 (9.4)	9.6 (8.3)	9.7 (8.1)	1.865	0.156
Clinical subtype (%)						
Paranoid	68.5	68.0	71.4	69.3	0.450	0.799
Disorganized	4.9	0.0	10.0	4.9	15.437	0.001
Catatonic	2.1	0.7	0.0	0.9	3.530	0.171
Undifferentiated	18.2	23.1	12.1	17.4	5.899	0.052
Residual	1.4	1.4	2.9	1.9	1.130	0.568
Others	4.9	6.8	3.6	5.1	1.564	0.458

chronic patients). In contrast, the Department of Psychiatry, National Taiwan University Hospital is an intensive care unit with 46 beds, mostly acute cases. The Taoyuan Psychiatric Center has 525 beds (85% chronic patients) and the Pali Psychiatric Center has 347 beds (70% chronic patients).

### Statistical procedures

Chi square test or F test was applied for differences in frequencies or means.

## RESULTS

### Forms of delusion

Delusions of grandeur were detected most frequently in Seoul patients (48.2%), least in Shanghai patients (27.5%) and intermediate in Taipei patients (38.8%). Delusions of guilt were more prevalent in Seoul and Taipei patients (31.5%, 30.1% respectively) than in Shanghai (23.9%), whereas delusions of jealousy were most prevalent in Seoul patients (17.0%), least in Taipei (3.6%) and intermediate in Shanghai (8.5%). No differences were proved in other forms of delusion (Table 2).

### Themes of delusion

Of the 21 delusional themes, only 14 demonstrated significant differences in frequency among the three study groups (Table 3). For instance, the love affair/sex and rape themes were most prevalent among the Seoul patients (33.8%, 6.1% respectively), least among Shanghai patients (20.1%, 0.7% respectively) and intermediate in Taipei patients (26.9%, 2.2% respectively). The 'longevity' theme was more common in Seoul patients (4.4%) than in Shanghai (0.7%) and Taipei patients (0.7%). The themes of poison, being pricked by poisoned needle and brain/viscera being extracted were most prevalent in Shanghai patients (24.5%, 8.6% respectively), least in

Seoul patients (5.1%, 0% respectively) and intermediate in Taipei patients (7.5%, 0.7% respectively). Dymorphophobia/dysmorphophobia were mostly found in Seoul patients (9.6%), least in Shanghai patients (0.7%) and intermediate in Taipei patients (3.0%).

'Religious/supernatural' delusions were more prevalent in Seoul and Taipei patients (47.1%, 41.0% respectively) than in Shanghai patients (7.9%), whereas delusions of 'possession' were most prevalent in Taipei patients (10.4%), absent in Shanghai patients and intermediate in Seoul patients (2.9%). The theme 'superpower/hypnotism' was most prevalent in Taipei patients (23.9%), least in Shanghai patients (12.2%) and intermediate in Seoul patients (16.9%).

The theme 'colleague/workshop' was most prevalent in Shanghai patients (16.5%), least in Seoul patients (5.1%) and intermediate in Taipei patients (11.9%), whereas the theme 'economic/business/money' was most prevalent in Taipei patients (17.2%), least in Seoul patients (3.7%) and intermediate in Shanghai patients (13.7%). The theme 'mass media/machine/computer' was most prevalent in Taipei patients (44.8%), least in Shanghai patients (21.6%).

Spy story was more prevalent in Seoul patients (5.9%) than Shanghai patients (0.7%) and Taipei cases (0%). The theme 'being a political or royal family' was most prevalent in Shanghai patients (14.4%), least in Seoul patients (5.1%) and intermediate in Taipei patients (9.0%).

### Characteristics of persecutor

For those patients who had delusions of persecution, differences in the frequency could be found among the three groups (Table 4). Neighbors/friends were most frequent among Shanghai patients (37.3%), whereas religious leaders/supernatural beings were most frequent among Seoul patients (23.5%). Robber/theft/gang were most prevalent in Taipei patients (11.8%). Finally, TV/radio/mass media were most prevalent in Taipei patients (15.5%), least in Shanghai cases (3.6%) and intermediate

**Table 2.** Frequency of the forms of delusions (%)

Form	Seoul	Shanghai	Taipei	Total	$\chi^2$	p value
Nihilistic	0.7	2.1	3.6	2.1	2.797	0.247
Poverty	2.1	4.2	5.0	3.8	1.730	0.430
Somatic	23.4	14.1	24.5	20.6	5.627	0.060
Grandiose	48.2	27.5	38.8	38.2	12.968	0.002
Persecutory	72.3	78.9	79.1	76.8	2.341	0.310
Idea of reference	66.0	54.2	59.0	59.7	4.093	0.129
Guilt	31.2	4.9	5.8	14.0	52.278	0.001
Being controlled	35.5	23.9	30.9	30.1	4.531	0.104
Jealousy	17.0	8.5	3.6	9.7	14.771	0.001

**Table 3.** Frequency of themes of delusions (%)

Themes	Seoul	Shanghai	Taipei	Total	$\chi^2$	<i>p</i> value
Family	41.2	30.2	31.3	34.2	4.406	0.110
Family being killed/persecuted	4.4	5.8	5.2	5.1	0.258	0.879
Lineage	3.7	5.8	6.7	5.4	1.218	0.544
Neighbors/friends	20.6	23.7	24.6	23.0	0.690	0.708
Love affair/sex	33.8	20.1	26.9	26.9	6.543	0.038
Being raped	7.4	0.7	2.2	3.4	6.304	0.048
Poison/prickled by poisoned needle	5.1	24.5	7.5	12.5	28.072	0.001
Brain/viscera extracted	0.0	8.6	0.7	3.2	20.479	0.001
Dysmorphophobia/dysosmophobia	9.6	0.7	3.0	4.4	13.716	0.001
Longevity	4.4	0.7	0.7	2.0	6.408	0.041
Religious/supernatural	47.1	7.9	41.0	31.8	61.947	0.001
Possession	2.9	0.0	10.4	3.3	18.733	0.001
Superpower/hypnotism	16.9	12.2	23.9	17.6	6.524	0.040
"I am god/Jesus/Buddha/heavenly being"	5.1	3.6	9.0	5.9	3.733	0.154
Invention/genius/authorship/talent	10.3	9.4	5.2	8.3	2.575	0.276
Colleague/workshop	5.1	16.5	11.9	11.2	9.045	0.011
Economic/business/money	3.7	13.7	17.2	11.5	13.054	0.001
Mass media/machine/computer	39.7	21.6	44.8	35.2	17.896	0.001
Political	15.4	15.8	24.6	18.6	4.820	0.276
Spy story	5.9	0.7	0.0	2.2	12.999	0.002
Being a political or royal family	5.1	14.4	9.0	9.5	6.884	0.032

**Table 4.** Frequency of persecutors in the persecutory delusions (%)

Persecutors	Seoul	Shanghai	Taipei	Total	$\chi^2$	<i>p</i> value
Family/relatives	24.5	23.2	26.4	24.7	0.299	0.861
Neighbors/friends	28.4	37.3	33.6	36.7	8.882	0.012
Religious leaders/supernatural beings	23.5	3.6	17.3	14.5	18.173	0.001
Socially distinguished person	5.9	0.9	4.5	3.7	4.057	0.132
Medical person/teachers	7.8	7.1	5.5	6.8	0.511	0.775
Robber/theft/gang	3.9	0.9	11.8	5.6	13.382	0.001
Machine/computer	1.0	8.0	6.4	5.2	5.763	0.056
TV/radio/mass media	11.8	3.6	15.5	10.2	8.972	0.011
Secret agent/police/army	7.8	14.3	11.8	11.4	2.217	0.330
Political authority	2.9	6.3	8.2	5.9	2.679	0.262
Spy/hostile nation	5.9	2.7	1.8	3.4	2.933	0.231
Others	26.5	23.2	21.8	23.8	0.661	0.719
Total cases with persecutory delusion	102	112	110	324		

in Seoul cases (11.8%). Among the three groups, however, no differences were found in the persecutors being family members, a socially prominent individual, medical personnel, machines and computers or a political authority.

## DISCUSSION

A successful transcultural study on delusions depends on the research strategy. Sample control, diagnostic criteria, and the method and reliability of symptom evalu-

ation among the researchers must be accurate and precise.

In this study, the sample was controlled via the sample size along with sex, age, education and duration of illness from initial onset, which were regarded to influence the delusional contents in the previous study (11). Accordingly, there were no statistical differences in sample size, sex, age, educational year, duration of onset from the initial onset and clinical subtypes (except disorganized type). Uneven distribution of the disorganized type was proved to have no influence on the frequencies of delusional forms, themes or persecutors by chi square test. Only one

difference, religious affiliation, was proved to influence the delusional contents by chi square test, and this is an actual difference in the hospital population as well as in the general population. Thus, possible problems of case characteristics arising from the different types of institutions could be resolved. The same diagnostic criteria and the same evaluation method of delusions were used for all the schizophrenic patients at the same time. The fact that the cases with delusions were identified to be over 90% of schizophrenic patients and that the frequencies were similar among the three groups suggests the high reliability. This percentage of delusions is also consistent with the incidence of delusions reported in the previous studies (7, 10, 11).

Some of the findings in this study may be interpreted in terms of culture and psychopathology. The first area of interest is delusions revolving around love and sex. Delusions of jealousy, love/sex and rape were most prevalent in Seoul patients, least in Shanghai patients and intermediate in Taipei patients. These findings support our previous finding that the themes of love, sex and jealousy were more frequent in Koreans than in Yanbian Chinese (7). Although delusion of jealousy is well-known to be quite frequent in Asian societies regardless religious affiliation (4, 12), the delusion was most common among the Koreans in our study. In Taiwan, the delusion of jealousy was prevalent in the 1950s (13), but was decreased in this study. The delusion is still more prevalent in Taiwan than in mainland China. On the other hand, theme of being raped was reported to be frequent in Koreans and absent in Yanbian Chinese (7), which manifested similar pattern in the present study. There is no previous finding about this delusion in Taiwan and Shanghai, but there were a few in this study. Incidences of delusions of sex/love, jealousy and rape sensitively reflect traditional sexual rigidity, sexual morality and public order (7).

Another delusional theme revolves around somatic or physical things. Somatic complaints are reportedly predominant in the three countries studied (14, 15). In this study, the frequencies of somatic delusions as a whole did not manifest any statistical difference. However, specific themes had the difference. Delusions of longevity such as they will live several hundred years were most frequent among Seoul patients. This finding is contrary to the previous finding that this delusion is rare both in Yanbian Chinese and Koreans (7). Further verification is needed for this discrepant findings.

Dysmorphophobia and dysosmophobia were also very prevalent in Seoul patients. These delusions have been regarded as particular manifestations of *taijinkyofusbo*, an offensive type of social phobia. The *taijinkyofusbo* was proved to be a culture-bound syndrome specific to Japan and Korea (16-19). In a transcultural study of *taijin-*

*kyofusbo* tendency, it was confirmed that the tendency was equally dominant in both Japan and Korea, but extremely rare in China (17). This difference between Korea and China may be responsible for the different frequency of the delusion in this study.

In contrast to the Koreans, delusions of poison and being pricked by poisoned needle and brain/viscera being extracted were predominantly frequent in Shanghai patients followed by Taipei patients. These two delusions have been well recognized as being predominant in China (6, 7). In their transcultural study of delusions between China and Japan, Fujimori *et al.* (6) interpreted the high frequency of the delusion of being poisoned in China by the fact that the Chinese traditionally often dine together with relatives and neighbors. Actually, the Chinese regard food as more important than clothing and housing. However, such a traditional dining trend has recently become diluted in Taiwan by recent industrialization. For the Koreans, on the other hand, the custom of dining together is less common and food is only as important as clothing and housing. Delusion of being pricked by poisoned needle was previously found to be prevalent in Yanbian Chinese by Kim *et al.* (7). The reason was attributed to the popularity of acupuncture in China (7). The findings of this study were not exceptional. Even though the acupuncture has historically been popular in both China and Korea, it's popularity has decreased in Taiwan and Korea with the growth of the Western medicine. This may account for the lower frequency of needle prick delusions in Taipei and Seoul patients. In the previous transcultural study of schizophrenic delusions among Koreans, Korean-Chinese and Chinese, the delusions of brain and/or viscera being extracted were regarded as China-specific delusions (7). In Shanghai sample of the present study, they say that somebody extracted their brain so that they can not think anything. Some of them recalled brainwashing from the brain extraction. The predominance of these delusions in China may be explained by the fact that there have been many folktales and TV dramas of featuring some brain and viscera being extracted (7). This fact may easily provide individuals with a projective channel for the loss of their individual identity in the communistic society onto the extraction of brain and various viscera.

A third area of delusions includes those regarding religion and the supernatural. These delusions were more predominant in Seoul and Taipei than in Shanghai. This study showed that the content of religious delusion was more variable in Korea than in Taiwan. Such pattern was also reported in Korea and Taiwan (7, 13). Korea is a multi-religious society where 80% of the population have their religious affiliation: Protestant (24%), Buddhism (24%), Catholicism (13%) or other new and quasi-reli-

gions. Their underlying religious orientation is shamanistic (20). Religious or supernatural matters are common conventional targets of projection among Koreans. Taiwan is also a multi-religious society, but the religious breakdown shows different profiles from Koreans. The leading belief is Taoism (39%), followed by Buddhism (9.8%), Protestant (18.9%), Catholicism (8.8%), and other sects (21). Aside from the official record, shamanism is a basic religious orientation that is a mixture of Taoism, Buddhism, and Confucianism. In Taiwan, it seems easy to project their individual conflict into this mixture. Regardless of their religious affiliation, religious delusions among Taipei patients were rather simple and unique in this study: mostly mixture of Taoistic and shamanistic nature. In mainland China, religion has been thoroughly oppressed by the communist government for the past five decades. Religious and supernatural concern had been an object of political persecution (22), which has quite recently become frayed. But, there is no official record on the various percentages of the religious breakdown. In this regard, it was almost impossible to project individual conflict upon religious matters in China. Previous studies (5, 7, 23) reported that religious delusion is almost absent in mainland China. In this study, religious and supernatural delusions among patients in Shanghai were more common compared to these previous reports. This reflects the Chinese government's recent tolerance to the religious activity. Different frequencies of delusions regarding possession can also be understood in terms of the religious situation in each country. Delusions of possession and superpower/hypnotism were most frequent in Taipei patients, which reflect strong shamanistic and Taoistic influence on the religious minds of the Taiwanese people. For example, such a delusion, "I can foresee everything in the world, because I have been possessed by a spirit of the King Dragon," is the most common religious delusion in Taipei patients. This finding seems consistent with the previous Taiwan study (13).

The fourth major category of delusions regards the social sphere. Delusions of economy, business and money were more predominant in Taipei and Shanghai than in Seoul. The reason for this difference is not clear. However, there were differences in content among the three groups. In Shanghai patients, the delusion of being a millionaire was popular reflecting Chinese fantasy of money in the recently open economic market. Whereas in Taipei and Seoul, delusion of being robbed or swindled of money were more common reflecting people's frustrations with capitalism and the potential instability of public peace in these countries. Frequent delusions regarding thieves and gangs in Taipei and Seoul patients could be attributed to this public insecurity. On the other hand, delusions of mass media, machine, and com-

puter seem proportional to the degree of their popularity.

The fifth category deals with political delusions. There were no differences in the overall political theme as a whole. However, delusions regarding spy were predominant in Seoul patients and almost absent in the other two groups. The spy story runs this way: I know, he is a spy from North Korea. So, I reported to the police. This may reflect Korea's continual political and military threat from the North Korea. On the other hand, delusions about being a prominent political person or member of the royal family were most frequent among Shanghai patients, which perhaps reflects China's situation where politics dominates the entire nation. A typical case is such that everybody regards him with envy because he is a nephew of Mao Tse-Tung. This delusion was previously found to be a main political delusion of mainland China (7).

Political delusions were the most frequent among all three countries over the past several decades (7, 13, 23, 24). In Korea, common political delusional themes have changed during the last five decades. During the Japanese occupation prior to 1945, the most common delusions had been those of poverty; during the five yr after liberation from Japanese rule, grandiose delusions with political themes dominated; after the Korean War in 1950, persecutory delusions involving spy or communist were frequent; and during the 25 yr of military dictatorship from the 1960s to the 1980s, persecutory delusions about secret agent, the army, or police were popular (25). Political delusions have become less dominant during the last decade due to the process of democratization (25, 26). Taiwan's political situation is quite similar to Korea in terms of political tension due to a country divided. During the 1950s and 1960s, political delusions involving spies and communists were predominant (13). However, these delusions have recently become less frequent due to the recent peaceful communication with mainland China. Mainland China has been under communist rule for the past five decades and patients have therefore been inundated by political delusions of being persecuted and obeying a prominent authority figure (7, 24, 25). However, in this study we found that patients in Shanghai manifested less severe and less frequent political delusions now compared to the previous two decades reflecting recent decrease of political tension in mainland China. It seems that delusions regarding politics are highly sensitive to the current political situation in each country.

The last area of focus regards delusion of guilt. This delusion is far more prevalent in Seoul and Taipei patients than in Shanghai patients. The delusion of guilt has conventionally been recognized as rare in Asian culture (4, 12). Actually, it has been reported that the delu-

sion of guilt is rare among patients with depression and schizophrenia in mainland China (14, 23, 27). However, these delusions have been reported to be quite frequent in depressed and schizophrenic Koreans (7, 14). In mainland China, they have, in fact, no idea of guilt in a religious sense but an idea of crime due to communistic ideology and lack of religious influence (7). Christianity accounts for 37% of the Korean populations, 27.7% of the Taiwanese, and fewer in mainland China. The theory that Christianity and guilt are closely related (12) may explain the difference in this delusion among the three groups.

Regarding delusion of lineage, it was formerly believed to be a China-specific delusion (23, 24). The result of our study revealed no difference among the three regions under study. This requires further verification.

Finally, it is suggested that a periodical follow up study of delusions in the same regions would be necessary because the contents of delusions are continuously changing.

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