The relationship between public causal beliefs and social distance toward mentally ill people

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Objective: The aim of this study is to investigate the nature of the relationship between public causal beliefs and social distance toward people with mental disorders, particularly schizophrenia and depression.
Method: In total, three representative surveys were carried out in Germany, Russia and Mongolia using personal, fully structured interviews.
Results: Despite the subjects' different cultural backgrounds, their responses show similar trends with regard to attributing depression and schizophrenia to psychosocial causes: 'acute stress' (life event) was most frequently endorsed as the cause for these two disorders. The biological causes ('brain disease' and 'heredity') were less frequently selected for depression than for schizophrenia. Irrespective of place and type of mental disorder, endorsing biological factors as the cause of schizophrenia was associated with a greater desire for social distance, the same relationship applies to depression in half the instances.
Conclusions: It would be premature to draw conclusions with regard to interventions aimed at reducing discrimination based on stigma. However, our study provides stimulus for re-considering the assumptions underlying antistigma interventions: that promulgating biological concepts among the public might not contribute to a desired reduction in social distance toward people with mental disorders.
Key words: causal beliefs, major depression, population surveys, schizophrenia, social distance.

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Starting in the 1960s with Goffman's book *Stigma. Notes on the management of spoiled identity* [1], numerous researchers have investigated and elaborated on the concept of stigma. Link and Phelan [2], for instance, define stigma as the convergence of the following four interrelated components: (i) people identify and label human differences; (ii) people associate the differences with undesirable characteristics; (iii) people accomplish some degree of separation of 'us' from 'them'; and (iv) labelled persons experience status loss and discrimination. According to Link and Phelan [2] and Pincus [3], there are three different levels of discrimination: individual; institutional/structural; and self-stigmatization. Pincus [3] defines *individual discrimination* as the behaviour of individual members of one group that is intended to have a differential and/or harmful effect on the members of another group. The second form, *structural discrimination*, refers to institutional practices and policies that work to the disadvantage of minority groups even in the absence of individual prejudice or discrimination [2]. It can take place in regard to legal provision as well as

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the interpretation and administration of laws [4]. Another area where structural discrimination can occur is the allocation of financial resources, for example the allocation of research disbursements and expenditures for medical care. Stigmatization that operates through the stigmatized person's beliefs and behaviours is called *self-stigmatization and* occurs when members of a minority group internalize the stigmatizing ideas of their social environment and start to believe they are of less value and will be rejected by most people.

In research, different concepts are used as indicators for discrimination based on stigma. People's attitudes toward the allocation of financial resources to medical care and research, for instance, function as an indicator for the acceptance of structural discrimination. Individual discrimination, on the other hand, is most frequently measured by the desire for *social distance*, that is the amount of distance that individuals of one group would hypothetically place between themselves and the members of another group in certain personal contact situations [5]. Applied to mental disorders, it is the willingness to readily engage people with a mental illness in activities such as babysitting, dating and renting them a room [6]. Our study is based on the supposition that the desire for social distance toward people with mental disorders is one of the indicators for individual discrimination, or as Corrigan [7] puts it, a proxy for discriminatory behaviour based on stigma, which constitutes part of the fourth component of Link and Phelan's stigma concept [2].

Numerous researchers have investigated how different factors influence people's willingness to interact with people with mental disorders, that is, factors that influence people's desire for social distance. Among these factors are the nature of the mental health problem, causal attributions, labelling, familiarity with mental illness and people's value orientations [7–11]. These studies have contributed to designing antistigma programs around the world, for example Crisp, Lopez-Ibor, or Sartorius [12–14]. One of the strategies which was thought to be a fruitful tool for reducing stigmatization was spreading the dominant paradigm shared by the majority of mental health professionals: promoting biological concepts as an explanation for mental disorders. The effectiveness of this strategy finds both supporters and opponents.

According to attribution theory [15,16], educating the public to adopt biological concepts seems promising. The argument is as follows. If the causes of mental health problems are attributed to factors outside the control of individuals, people's reactions to the mentally ill will be less negative; however, if the cause of mental health problems is attributed to individuals and their supposed character flaws, the public will be less willing to interact with the mentally ill. Consequently, attributing the development of mental illness to biological causes will be negatively related to people's tendency to reject the mentally ill. On the other hand, attributing mental illness to personal deficiencies will be associated with a predisposition to greater social distance. Findings from a representative survey in the US support most of these assumptions [8].

Quite a contrary argument is put forward by Read and Law and Read and Harré [17,18] who argue that promoting biological concepts as an explanation for mental disorders is not as successful in reducing stigmatization as has been assumed. Their studies in New Zealand involving undergraduates in a first year 'Introduction to psychology' course showed that biological causal beliefs are related to negative attitudes, including perceptions that 'mental patients' are dangerous, antisocial and unpredictable and that there is a reluctance to become romantically involved with them [18].

There are several suggestions why the biological model is likely to produce negative attitudes and higher social distance. Mehta and Farina [19] argue that believing in biochemical aberrations renders mentally ill people 'almost another species' and also makes us vulnerable because the disorder might strike us too. These feelings of vulnerability and perceiving mentally ill people as 'strangers' and 'different from us' [2] may give way to harsher treatment of these people. Read and Harré [18] suggest that promulgating faulty brain functioning implies that a person is not responsible for and cannot control their actions, making this person unpredictable. This increases our fear and the need to severely, even harshly, control this unpredictability. This hypothesis is supported by Mehta and Farina's [19] finding that the less we hold 'mental patients' responsible for their failings the more harshly we treat them.

In conclusion, previous studies have produced contradictory results. In order to untangle these conflicting findings, the aim of this study is to investigate the nature of the relationship between public causal beliefs and social distance toward people with mental disorders – particularly schizophrenia and depression – based on data gathered from the adult population in Germany as well as in the cities of Novosibirsk (Russia) and Ulaanbaatar (Mongolia). The main focus will be on outlining the relationship between biological causal beliefs and the desire for social distance.

Method

Sample

Three representative surveys were conducted in Germany, Russia and Mongolia by our research group. Originally, the aim was to assess

the beliefs about mental disorders and attitudes toward the mentally ill prevalent among the German public. Then we became interested in comparing our findings with those from other, non-Western countries, since from this comparison further insight might be gained into the role of cultural influences on public beliefs and attitudes. The same survey was thus conducted in Novosibirsk (Russia) and Ulaanbaatar (Mongolia). The German survey was conducted by USUMA, an institute specializing in market, opinion and social research. The survey in Novosibirsk was conducted by PreView, a Russian institute for market research. A research group from the National Health Development Centre in Ulaanbaatar carried out the survey in Mongolia. The organizers of the fieldwork received intensive training at our department.

In 2001, a total of 5025 interviews were conducted in Germany, 4005 interviews in the western part ('old' Federal Republic of Germany) and 1020 interviews in the eastern part (former German Democratic Republic), reflecting a total response rate of 65.1%. In 2002, two surveys were realized in the cities of Novosibirsk and Ulaanbaatar. In Novosibirsk, 745 interviews were conducted (74.5% response rate), and in Ulaanbaatar, 950 interviews (95.0% response rate).

Sampling procedure

The surveys were conducted among citizens aged 18 years and older, living in non-institutional settings in the respective locations. In all four locations, the same sampling procedure was used. The samples were drawn using a three-stage random sampling procedure, with electoral wards at the first stage, households at the second, and individuals within the target households at the third stage. Target households within the sample points were determined according to the random route procedure [20], that is a household was selected randomly as a starting point from where the interviewers followed a set route through the area. Target persons were selected according to random digits.

Interview

In all surveys, the same personal, fully structured interview was used. At the beginning of the interview, respondents were presented with a vignette containing a diagnostically unlabelled psychiatric case history, either depicting a case of schizophrenia or major depressive disorder (Table 1). The symptoms described in the vignettes fulfilled the criteria of DSM-III-R for the respective disorder. Before the vignettes were used in the surveys, five psychiatrists or psychologists, all experts on psychopathology, did blind diagnostic allocations, with the result that all experts provided the correct diagnoses for the case histories.

Following the presentation of the vignette, respondents were asked about the causes and the prognosis for the condition described in the vignette as well as the treatment they thought to be appropriate and whom the individual should contact for help. Subsequently, respondents were asked about their emotional reactions and the social distance they desire from the person described in the vignette.

The interviews used in Novosibirsk and Ulaanbaatar were translated according to the guidelines of the World Health Organization (WHO) [21], and pretested in 30 interviews. The World Health Organization proposes for the translation to include double checks by means of a re-translation, a monolingual as well as a bilingual review. These guidelines were followed during the translation processes of the vignettes (schizophrenia and depression) and the interviews.

Measures

Dependent variable

Social distance: For the assessment of respondents' desire for social distance we used a scale developed by Link [10], a modified version of the Bogardus Social Distance Scale [5]. The scale includes seven items representing the following social relationships to the respondent: landlord, co-worker, neighbour, member of the same social circle, personal job broker, in-law, and childcare provider. Using a five-point Likert scale ranging from 'in any case' (1) to 'in no case at all' (5), the respondents could indicate to what extent they would, in the situation presented, accept the person described in the vignette. With these seven items, a non-linear principal component analysis [22] was carried out which provides so-called optimal scores for both the item categories and for each observation. Optimal scores for the categories are computed in such a way as to maximize the internal consistency of the instrument, thereby maximizing the correlation of each item with the vector of the object scores. The first factor derived from the principal component analysis has an eigenvalue of 3.99. All other factors have eigenvalues below 0.40, indicating the uni-dimensionality of the scale. The object score of the first axis is used as indicator for social distance. High scores indicate a desire for greater social distance. The reliability of the scale, assessed by means of Cronbach's alpha, is 0.90.

Independent variables

Socio-demographic variables: We included three socio-demographic variables which may have an impact on the public's desire for social distance: gender (dummy variable with 1 = women, 0 = men), age (measured in years), education (dummy variable with 1 = high educational attainment, 0 = others). While previous surveys have shown that the effect of gender is rather inconsistent, the desire for social distance increases with age and decreases with educational attainment [9].

Causal attributions: Respondents' attributions of the causes of the disorders depicted in the vignettes were assessed by responses to eight items, with two items each reflecting either 'psychosocial stress' (acute: life event; chronic: stress at work), 'biological causes' (brain disease, heredity), 'conditions of socialization' (broken home, lack of parental affection), or 'causes the individuals can influence themselves' (lack of will power, immoral life style). Using a five-point Likert scale ranging from 'definitely no cause' (response category 1) to 'definitely a cause' (category 5), respondents should indicate how relevant they considered each potential cause to be.

Results

Table 2 indicates that across all four locations, acute stress in the form of a 'life event', was most frequently seen as the cause of the schizophrenic disorder. Less frequently, but also to a considerable amount, the two biological causes ('brain disease' and 'heredity') as well as 'stress at work' were seen as causes. The comparison of the four locations yielded significant differences (analyses of variance using the Scheffé's test) with regard to attributing the cause to conditions of socialization and to causes the individuals can influence themselves: In the German survey, all causal attributions referring to the family or the afflicted individual were far less frequently chosen than in the Russian and Mongolian surveys.

Table 1. Vignettes

Major depression
During the last 2 months, one of your friends has changed very much. Contrary to previous times, he is feeling downcast and sad without any specific reason. He looks concerned and worried. There is nothing that makes him laugh. He hardly ever talks and, if he does, he speaks in a low voice about worries concerning the future. Your friend feels useless and a failure. Attempts to cheer him up are not successful. He has lost all his interests. He complains about waking up repeatedly in the middle of the night and about being unable to fall asleep afterwards. In the morning, he feels weary and without energy. He reports to be hardly able to concentrate on his work. Unlike before, every task takes him a long time to do. He hardly does his duty at work and had to see his superior because of this.

Schizophrenia
During the last six months, one of your friends has changed. He withdraws from his coworkers and friends more and more. He keeps out of everybody's way. If ever a conversation with him is possible, there is just one single topic to talk about: the question as to whether certain people have the ability to read other people's thoughts. He is preoccupied with this thought and cannot think of anything else. Contrary to his former habits, he does not take care of his appearance any longer and seems to neglect himself increasingly. At work he seems absentminded and often makes mistakes. He already had to see his superior because of this. Finally, your friend did not go to work for a whole week, without giving any excuse. Since then, he seems to be anxious and agitated. He reports to be convinced that not only are people able to read other people's thoughts, but that they are also able to influence these thoughts; but he would not yet know who is controlling his thoughts. He even hears these people talking to him and giving him orders. Sometimes, they speak to one another and mock him. In his apartment, the situation is particularly bad. There he feels threatened and terribly scared. He has not been at home for a week and hid in a hotel which he has not dared to leave.

Table 2. Percentage of respondents endorsing offered causal attributions for schizophrenia and major depression

	West Germany (5/2001)	**East Germany (5/2001)**	**Russia (6–7/2002)**	**Mongolia (6–7/2002)**
Schizophrenia	n = 1987	n = 494	n = 375	n = 474
Percentage of respondents† attributing cause to:				
Brain disease	69.9	67.5	64.4	71.3
Heredity	60.2	56.4	67.5	67.2
Life event	72.3	73.8	84.8	86.7
Stress at work	57.7	64.8	52.7	62.2
Broken home	39.3	41.3	54.9	44.6
Lack of parental affection	30.4	31.6	45.6	45.9
Lack of will power	36.4	39.4	60.1	57.1
Immoral life style	20.9	20.7	46.8	46.3
Depression	n = 2018	n = 526	n = 370	n = 476
Percentage of respondents† attributing cause to:				
Brain disease	42.5	37.9	46.7	59.3
Heredity	45.3	40.2	56.3	57.7
Life event	80.7	81.0	85.1	84.5
Stress at work	77.2	80.2	65.4	71.1
Broken home	43.9	44.3	56.2	45.8
Lack of parental affection	34.5	35.1	52.4	42.5
Lack of will power	43.0	46.6	64.8	61.6
Immoral life style	17.8	22.8	45.4	48.1

†response categories 1 and 2 combined.

Similar to schizophrenia, 'life event' was most frequently seen as causing major depression, followed by 'stress at work'. In the German survey, the biological causal attributions were far less frequently chosen than in the Russian and Mongolian surveys. Furthermore, the tendency to blame the family (socialization) and the afflicted person for the disorder was significantly more pronounced in Russia and Mongolia, for the latter with the exception of 'broken home'.

Using one-way analyses of variance, a comparison yields that the two biological causes were less frequently selected for depression than for schizophrenia. Significant differences between depression and schizophrenia also showed for psycho-social stress in all four locations, with the exception of 'life event' in Russia and Mongolia. With regard to the causes individuals can influence themselves, 'immoral life style' showed no differences across the four locations, except for West Germany. 'Lack of will power' on the contrary, showed

significant differences in all surveys. With regard to causes attributed to socialization, significant differences only showed for 'broken home' and 'lack of parental affection' in West Germany, and for 'lack of parental affection' in Russia (Table 3).

The central question, whether seeing biological factors ('brain disease' and 'heredity') as causes of mental disorders has a positive or negative effect on the social distance desired, was examined by means of a multiple regression model with control of the sociodemographic variables of gender, age, and educational attainment, calculated separately for the four locations. As shown in Table 4, endorsing biological factors as the cause of schizophrenia was associated with a greater desire for social distance. This finding is consistent across all four locations, with the exception of 'brain disease' in the Russian survey. Attributing the causes to socialization results in a reduction of the social distance desired: four of the eight effects measured show such a significant relationship. In three of the four locations, 'lack of parental affection' was a significant predictor for social distance: those who attribute schizophrenia to this cause show lower social distance. The remaining effects for socialization are not significant but point in the same direction, with the exception of 'broken home' in Novosibirsk.

Table 3. Differences between schizophrenia and major depression with regard to causal attributions (one-way analysis of variance)

	West Germany F	East Germany F	Russia F	Mongolia F
Causal attributions				
Brain disease	452.463***	103.379***	17.823***	13.722***
Heredity	104.873***	27.290***	10.082**	11.191***
Life event	70.461***	8.278**	1.050	0.291
Stress at work	212.128***	41.389***	14.158***	9.326**
Broken home	12.660***	0.073	0.109	0.038
Lack of parental affection	17.562***	1.028	15.330***	0.166
Lack of will power	28.894***	4.880*	4.690*	4.705*
Immoral life style	4.459*	1.111	0.624	0.902

*p < 0.05; **p < 0.01; ***p < 0.001.

Table 4. Regression of desire for social distance from people with schizophrenia on socio-demographic characteristics and causal attributions

	West Germany (5/2001) n = 1987	East Germany (5/2001) n = 494	Russia (6–7/2002) n = 375	Mongolia (6–7/2002) n = 474	Overall n = 3330
Socio-demographic characteristics					
Age (years)	0.001	0.002	0.007**	0.007**	0.002*
Gender (1 = women)	–0.031	–0.038	0.115	–0.018	–0.016
Education (1 = high)	–0.130*	–0.174	0.152	0.059	–0.076
Country (West Germany: reference category)					
East Germany					–0.010
Russia					0.747***
Mongolia					0.122*
Causal attributions					
Brain disease	0.171***	0.091*	0.055	0.074**	0.125***
Heredity	0.059**	0.089*	0.073*	0.079**	0.071***
Life event	–0.007	0.027	–0.059	–0.116**	–0.023
Stress at work	–0.022	–0.031	–0.017	–0.010	–0.001
Broken home	–0.027	–0.058	0.015	–0.097***	–0.039**
Lack of parental affection	–0.105***	–0.084	–0.090**	–0.060*	–0.086***
Lack of will power	0.040*	0.071	0.068*	–0.001	0.039**
Immoral life style	0.066**	–0.001	0.015	0.002	0.026
Constant	0.465	0.222	0.559	–0.461	0.278
R^2 adjusted	0.082	0.044	0.081	0.118	0.126
F	16.557***	2.954**	3.932***	6.528***	33.906***

*p < 0.05; **p < 0.01; ***p < 0.001.

Endorsing 'lack of will power' as the cause of schizophrenia results in higher social distance in Russia and West Germany, without significance in East Germany, while no effects show in the Mongolian study.

Table 5 indicates that the above pattern for the relationships between biological causes, socialization and the social distance desired is less pronounced for major depression. However, the endorsement of biological causes for depression is associated with an increase in the social distance desired in half the instances. In two instances, 'lack of will power' is positively related to the preference for social distance.

In addition, we calculated the regression analyses for the total sample, entering the location as control variable (Tables 4,5). The causal attributions explain the social distance for schizophrenia (R^2 West Germany, 8.2%; East Germany, 4.4%; Russia, 8.1%; Mongolia, 11.8%; overall, 12.6%) as well as for depression (R^2: West Germany, 9.9%; East Germany, 7.2%; Russia, 10.9%; Mongolia, 13.9%; overall, 16.2%) only to a minor degree.

Conclusion

This study provides information with regard to the prevalence of causal attributions among respondents from three different countries as well as the nature of the relationship between causal attributions and social distance desired to people with depression and schizophrenia. Despite the subjects' different cultural backgrounds, their responses show similar trends with regard to attributing depression and schizophrenia to psychosocial causes: acute stress ('life event') was most frequently endorsed as the cause for these two disorders. However, the comparison of the German study with the Mongolian and Russian studies reveals a stronger tendency for the latter toward attributing the causes to the individuals themselves, that is to the individuals' 'lack of will power' and 'immoral life style'. Among the reasons for this difference might be that first, the illness concept is not as widespread among the population in Novosibirsk and Ulaanbaatar as it is in Germany, resulting in a stronger tendency toward blaming the ill for their disorder; and second, the different cultural and social backgrounds may also lead to disparate interpretations of the concept of morality, and morality might also have a different significance in the locations examined.

The findings of our study suggest that there is a positive relationship between biological causal beliefs (i.e. 'brain disease' and 'heredity') and social distance toward people with schizophrenia and depression. This relationship can be observed across all four locations, in 11 of 16 instances. This is only partly offset by an inverse relationship between conditions of socialization ('broken home' and 'lack of parental affection'). Blaming the afflicted individuals themselves operates in the direction proposed by attribution theory [15,16], in that it increases social distance. One explanation

Table 5. Regression of desire for social distance from people with major depression on socio-demographic characteristics and causal attributions

	West-Germany (5/2001) n = 2018	East-Germany (5/2001) n = 526	Russia (6–7/2002) n = 370	Mongolia (6–7/2002) n = 476	Overall n = 3390
Socio-demographic characteristics					
Age (years)	0.006***	0.004	0.012***	0.006*	0.006***
Gender (1 = women)	–0.043	–0.156*	0.098	0.059	–0.030
Education (1 = high)	–0.104	–0.334**	0.186	0.029	–0.089*
Country (West Germany: reference category)					
East Germany					0.065
Russia					0.834***
Mongolia					0.391***
Causal attributions					
Brain disease	0.096***	0.036	0.106***	–0.014	0.076***
Heredity	0.045**	0.062	0.021	0.160***	0.074***
Life event	–0.001	–0.021	–0.013	–0.108**	–0.028
Stress at work	–0.090***	0.005	0.011	–0.033	–0.040*
Broken home	–0.054**	0.041	0.049	–0.075**	–0.036**
Lack of parental affection	–0.091***	–0.070	–0.053	–0.012	–0.041**
Lack of will power	0.123***	0.094**	0.001	–0.052	0.071***
Immoral life style	0.046*	0.038	0.045	–0.016	0.028*
Constant	–0.394	0.119	0.302	–0.651	–0.290
R^2 adj.	0.099	0.072	0.109	0.139	0.162
F	20.590***	4.509***	5.039***	7.763***	46.363

*p < 0.05; **p < 0.01; ***p < 0.001.

might be that both the biological cause 'brain disease' and causes the individuals can influence themselves ('lack of will power'/'immoral life style') are associated with a lack of control: in the former, loss of cognitive control, in the latter, loss of personal/character control. This may lead the public to think that these people are dangerous and unpredictable. As a consequence, people desire social distance from those afflicted with these disorders. It has to be pointed out here that all the above associations are more pronounced with schizophrenia.

The relationship between biological causal beliefs and social distance has to be considered with caution due to the cross-sectional design. Two ways of interpreting are possible. On the one hand, a direct relationship can be assumed. On the other, both causal beliefs and social distance might depend on other factors, for instance, personality. According to James' psychological polarity, personalities can be divided into 'tough minded' and 'tender minded' [23]. Whereas the tough minded may make biological attributions and be less likely to seek common ground with people with mental disorders, the tender-minded may make social attributions and try to understand the mentally ill and have fewer problems with social distance. The tough-minded who make causal biological attributions might view the mentally ill as very different (see Mehta and Farina's assumption that perceiving disorders as resulting from biochemical aberrations renders the ill almost another species [19]), and therefore seek to increase social distance. However, this is unverified and therefore a further avenue of research.

It would be premature to draw conclusions about interventions to reduce discrimination from the results. Our study, however, raises concern that promulgating biological concepts among the public might not contribute to reducing social distance desired toward people with mental disorders. As suggested earlier, discrimination based on stigma has many facets and only one (social distance as an indicator for individual discrimination) has been addressed. Other components might be more salient in predicting social distance, for example social exclusion, inadequate treatment and denial of appropriate access to social roles [24]. Here, endorsing of biological causes may even have positive effects.

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