Familiarity with mental illness and social distance from people with schizophrenia and major depression: testing a model using data from a representative population survey

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Abstract

Objectives: The main purpose of this study is to examine whether the relationship between familiarity with mental illness and stigmatizing attitudes about mental illness, which had been observed in a previous study based on a sample of community college students (Psychiatr. Serv. 52 (2001) 953), can be replicated using data from a representative population survey. Methods: In spring 2001, a representative survey was carried out in Germany ($n=5025$). A personal, fully structured interview was conducted which began with the presentation of a vignette depicting someone with either schizophrenia or major depression. Respondents were asked to respond to measures assessing familiarity, perception of dangerousness, fear, and social distance. Path analysis with manifest variable structural modeling techniques was applied to test the model used in the previous study. Results: Despite differences in methods, most findings of the previous study were replicated. Respondents who were familiar with mental illness were less likely to believe that people with schizophrenia or major depression are dangerous. Weaker perceptions of dangerousness corresponded closely with less fear of such people, which in turn was associated with less social distance. The effect of familiarity was somewhat pervasive: respondents who reported to be familiar with mental illness expressed a less strong desire for social distance. There is also a relatively strong relationship between perceived dangerousness and social distance. Conclusions: Our findings fully support the notion that approaches to social change which increase the public’s familiarity with mental illness will decrease stigma.

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1. Introduction

In recent years, a number of programs have been initiated, all aimed at reducing stigma and discrimina-

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It is only recently that conceptualizations of the various components of stigma have been proposed which might prove helpful for planning anti-stigma activities. Corrigan (2000) has developed a model for describing components of stigma that affect the outcomes of persons with mental illness. According to this model, people who believe people with mental illness are dangerous will likely react with fear and attempt to socially avoid individuals mental illness, thereby withholding rightful life opportunities.

Using a sample of community college students, Corrigan et al. (2001) set out to test a version of the model in which familiarity influences the perception of dangerousness, which in turn influences fear. They defined familiarity in terms of direct experience with mental illness and people with psychiatric disorders. They also hypothesized that this dangerousness—fear relationship influences social distance from persons with serious mental illness. Their findings largely supported the model. Correlations between the perception of dangerousness and fear as well as between fear and social distance were particularly strong. The authors concluded that an attempt to replicate and extend their findings based on a broader survey of a representative sample seemed warranted.

This study is aimed at replicating Corrigan et al.’s findings using data from a representative population survey that had been carried out in Germany in 2001. While Corrigan et al. had been studying attitudes towards people with mental illness in general, the type of disorder will be specified in our study. This helps to test whether the model applies in the same way to different mental disorders, or whether there are some differences across disorders. Following Corrigan et al.’s reasoning, we started with the assumption that people who perceive an individual as being violent because of mental illness will end up fearing that person. In fact, besides Corrigan et al.’s study, there are several other studies which were able to show that perceiving persons with mental illness as dangerous is related to fearing such persons (Link and Cullen, 1983; Levey and Howells, 1995; Wolff et al., 1996). Fear in turn yields avoidant behaviors, or a strong preference for social distance. This too is supported by other research showing that perception of dangerousness increases the tendency to distance oneself from people with mental disorder (Madianos et al., 1987; Angermeyer and Matschinger, 1997). Finally, we assumed that the model proposed by Corrigan et al. would be more suitable for the analysis of the stigma of schizophrenia than that attached to depression in view of recent findings showing that people with schizophrenia are more frequently perceived as more dangerous than those suffering from depression (Crisp et al., 2000).

It is also well established that attitudes towards people with mental illness are influenced by an individual’s familiarity with mental illness. People who have greater knowledge about or experience with mental illness are less likely to endorse the stereotype of dangerousness (Link and Cullen, 1983; Penn et al., 1994; Whaley, 1997; Ryan, 1998; Corrigan et al., 2001). They also less frequently express a desire for social distance (Trute et al., 1989; McKeon and Carrick, 1991; Hall et al., 1993; Ng et al., 1995; Angermeyer and Matschinger, 1996; Vezzoli et al., 2001; Corrigan et al., 2001). With regards to the association between familiarity and fear, the findings are rather mixed: while Corrigan et al., and also Wolff et al. (1996), did not observe a significant relationship, Angermeyer and Matschinger (1997) as well as Brockington et al. (1993) found one in the expected direction.

In our study, we will also examine the impact of familiarity on the three components of stigma. Based on the literature cited above, our hypothesis was that with increasing familiarity, people would be less likely to perceive persons with mental illness as being dangerous. Consequently, they will respond with less fear, which, in turn, will result in the expression of a preference for lower social distance.

2. Methods

2.1. Sample

During May and June of 2001, a representative survey was conducted in Germany, involving persons of German nationality who were at least 18 years old and who were living in private households. The sample was drawn using a three-stage random sampling procedure with sample points (usually electoral wards) at the first stage, households at the second, and
individuals within the target households at the third. Target households within sample points were determined according to the random route procedure (i.e. a household was selected randomly as a starting point from where a set route through the area was followed). Target persons were selected according to random digits. Informed consent was considered to have been given when individuals agreed to complete the interview. In total, 5025 interviews were conducted, which reflect a response rate of 65.1%. In Table 1, the sociodemographic characteristics of the sample are presented. With regard to gender and age, the sample was comparable to the whole of the German population aged 18 years and older in 2000 (Official Registry Report 2002). The personal, fully structured interview was essentially identical with the one that had already been applied in previous surveys (e.g. Angermeyer and Matschinger, 1997). Therefore, no pre-testing was necessary.

2.2. Interview

2.2.1. Vignette

The interview began with the presentation of a vignette containing a diagnostically unlabelled psychiatric case history. De facto, the case histories either depicted a case of schizophrenia or major depressive disorder. The symptoms described in the vignettes fulfilled the criteria of DSM-III-R for the respective disorder. Before being used in the surveys, the vignettes had been submitted to five psychiatrists or psychologists (all experts on psychopathology holding a professorship in psychiatry) for blind diagnostic allocation. All experts were able to provide the correct diagnoses for both case histories. Sub-samples were presented with only one vignette (see Appendix).

2.2.2. Perceived dangerousness

Drawing on previous findings of stigma research (Angermeyer and Siara, 1994), a list of nine personal attributes was generated which was intended to cover two important components of the stereotype of mental illness: dangerousness and dependency. Respondents were asked to indicate, with the help of a five-point Likert scale ranging from “definitely true” (code 1) to “definitely not true” (code 5), to what extent these attributes apply to the person depicted in the vignette. Principal component factor analysis with varimax rotation yielded two dimensions:

- Perceived dangerousness (eigenvalue: 4.1; explained variance: 45.8%)—comprising the attributes dangerous (factor loading: 0.83), aggressive (0.82), lacking self-control (0.81), unpredictable (0.77), frightening (0.77), and strange (0.63).
- Perceived dependency (eigenvalue: 1.4; explained variance: 15.5%)—dependent on others (factor loading: 0.76), helpless (0.71), needy (0.67).

In this study, only the perceived dangerousness scale will be used. Scoring was reversed to facilitate interpretation. Hence, high scores represent the endorsement of dangerousness. The internal consistency of the measure was very good (Cronbach’s alpha: 0.88).
2.2.3. Fear

According to previous research (Corrigan, 2000; Angermeyer and Matschinger, 1997), three types of emotional reactions to people with mental illness can be distinguished: fear, pity, and anger. A list of 12 five-point Likert-scaled (1 = definitely the case, 5 = definitely not the case) items, representing these three ways to respond to individuals with mental illness, was used to assess the respondents’ emotional reactions to the person described in the vignette. Principal component factor analysis with varimax rotation yielded the following three dimensions which correspond closely to the theoretically derived reaction types and which are virtually identical with the dimensions identified in a previous study (Angermeyer and Matschinger, 1997):

- Fear (eigenvalue: 3.9; explained variance: 32.5%)—uneasiness (factor loading: 0.85), fear (0.81), feelings of insecurity (0.77), embarrassment (0.52).
- Pity (eigenvalue: 1.9; explained variance: 16.1%)—desire to help (factor loading: 0.79), empathy (0.78), pity (0.66).
- Anger (eigenvalue: 1.3; explained variance: 10.6%)—ridicule (factor loading: 0.77), anger (0.74), irritation (0.74), lack of understanding (0.63).

In this study, only the scale measuring fear will be used. Scoring was reversed to facilitate interpretation. Hence, high scores represent the tendency to react with fear. The internal consistency of the scale was found to be satisfactory (Cronbach’s alpha: 0.79).

2.2.4. Social distance

For the assessment of the respondents’ desire for social distance, we made use of a scale developed by Link et al. (1987), a modified version of the Bogardus Social Distance Scale (Bogardus, 1925). It includes seven items representing the following social relationships: rent a room, common place of work, neighborhood, member of the same social circle, personal job brokering, marriage into one’s family, child care. 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 the seven items, a non-linear principal component analysis (Gifi, 1990) was carried out. The object scores of the first axis were used as indicator for social distance. High scores indicate a preference for great social distance. The internal consistency of the scale, assessed by means of Cronbach’s alpha, was 0.90.

2.2.5. Familiarity with mental illness

We asked the respondents whether they themselves or anyone within their family had ever undergone psychiatric treatment. We further inquired whether they themselves, or any member of their family, were in contact with psychiatric patients, either professionally, or within the scope of their work as a volunteer. Finally, we asked whether they knew of anyone within their circle of friends, among their co-workers, or in their own neighborhood, who was either undergoing psychiatric treatment or who was dealing with the mentally ill on a professional or volunteer basis. Based on this information and consistent with Corrigan et al., we established four hierarchical categories representing the intensity of personal experience with mental illness: (1) the respondent himself/herself has been/is in psychiatric treatment; (2) a family member has been/is undergoing psychiatric treatment; (3) the respondent either knows someone within his circle of friends, among his co-workers, or in his neighborhood who has been/is undergoing psychiatric treatment, or he/she himself/herself or another member of his/her family, one of his/her friends, etc. has been/is active as either a professional or volunteer helper in the field of psychiatry; and (4) none of the listed possibilities applies to the respondent; i.e. he/she has no personal experience with mental illness. If several categories applied, the one representing the highest level of familiarity was chosen.

3. Results

In Table 2, the means of the scales measuring perceived dangerousness, fear, and social distance are shown for the four categories of familiarity with mental illness. Since the scales result from factor analysis or non-linear principal component analysis, respectively, the scores are standardized with a mean of 0 and a standard deviation of 1.
perceived dangerousness and fear, scoring was reversed to facilitate interpretation. Throughout the table, a general pattern emerges suggesting a relationship in the predicted direction between familiarity and the three attitudinal domains. However, the expected gradient from most intensive exposure to mental illness to no exposure at all can be observed only with the perception of dangerousness of the individual with schizophrenia as well as fear of and social distance from someone with major depression. In the other cases, it seems crucial whether the person had ever been previously confronted by mental illness. Those who are familiar with mental illness are less likely to perceive the individual with major depression as dangerous than those without any personal experience. They express less fear and less desire for social distance when confronted with the individual with schizophrenia.

Table 2
Variation of perceptions of dangerousness, fear, and social distance according to familiarity with mental illness (scales standardized with a mean of 0 and standard deviation of 1)

<table>
<thead>
<tr>
<th></th>
<th>Respondents in psychiatric treatment</th>
<th>Family members in psychiatric treatment</th>
<th>Friends, etc. in psychiatric treatment</th>
<th>No contact with someone in psychiatric treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived dangerousness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia; mean (n)</td>
<td>0.10 (235)</td>
<td>0.16 (191)</td>
<td>0.23 (355)</td>
<td>0.39 (1673)</td>
</tr>
<tr>
<td>Major depression; mean (n)</td>
<td>-0.56 (273)</td>
<td>-0.45 (213)</td>
<td>-0.50 (383)</td>
<td>-0.21 (1646)</td>
</tr>
<tr>
<td><strong>Fear</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia; mean (n)</td>
<td>0.02 (235)</td>
<td>-0.02 (188)</td>
<td>0.09 (353)</td>
<td>0.27 (1658)</td>
</tr>
<tr>
<td>Major depression; mean (n)</td>
<td>-0.36 (274)</td>
<td>-0.24 (210)</td>
<td>-0.23 (376)</td>
<td>-0.14 (1627)</td>
</tr>
<tr>
<td><strong>Social distance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia; mean (n)</td>
<td>-0.06 (237)</td>
<td>0.02 (189)</td>
<td>0.05 (356)</td>
<td>0.38 (1671)</td>
</tr>
<tr>
<td>Major depression; mean (n)</td>
<td>-0.62 (278)</td>
<td>-0.39 (211)</td>
<td>-0.39 (381)</td>
<td>-0.14 (1641)</td>
</tr>
</tbody>
</table>

Fig. 1 shows for both, schizophrenia and major depression, the relationship between familiarity, perceived dangerousness, fear, and social distance. The path models were computed as saturated linear regression models, with manifest variables, fully recursive and without any restrictions. The models were determined separately for research participants responding to the schizophrenia \(n=2365\) and depression \(n=2429\) vignettes, controlling for the effect of gender, age, and educational attainment. In view of the findings reported above, the familiarity variable was dichotomized, distinguishing between respondents who had some kind of experience with mental illness and those who had no experience at all.

In terms of schizophrenia, all path coefficients are significant. As expected, familiarity inversely predicts the perception of dangerousness: the more familiar the respondents are with mental illness, the less dangerous

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**Fig. 1.** Relationship between familiarity, perceived dangerousness, fear, and social distance: schizophrenia \(n=2365\) vs. major depression \(n=2429\). Note that the indices in bold represent the schizophrenia vignette; those in italics represent the depression vignette.
they believe the person depicted in the vignette to be. Familiarity is also inversely associated with fear, although the relationship is less strong: respondents who are familiar with mental illness are less prone to react with fear. There is also a negative association between familiarity and the desire for social distance: respondents with personal experience with mental illness are less likely to distance themselves from the person depicted in the vignette. As predicted, a strong relationship exists between expectations of dangerousness and fear. Finally, as predicted, there is a positive association between fear and social distance: respondents who express fear when confronted with the vignette report a greater preference for social distance. In addition, there is also an even stronger association between perceived dangerousness and social distance; the more the person is believed to be dangerous, the more likely respondents will express a desire for social distance.

The path model for major depression is very similar to that for schizophrenia. Again, with the exception of the association between familiarity and fear, all path coefficients are significant although they are on average smaller than those for schizophrenia (exception the association between familiarity and perceived dangerousness). The path model for schizophrenia explains 20.6% of the variance of social distance, while for major depression, only 14.8%.

4. Discussion

As has been shown, there is a significant association between familiarity with mental illness and attitudes towards people suffering from severe mental disorders. However, in only half of the cases, this relationship was ordinal. In the other half, it only mattered whether someone had previously been exposed in some way to mental illness. Thus, our findings are fully in line with the two surveys that had been previously conducted in Germany (Angermeyer and Matschinger, 1996). Namely, only in some cases a gradient between the degree of exposure to mental illness, and the desire for social distance had been observed.

The main purpose of this study was to examine whether the relationship between familiarity, perceived dangerousness, fear, and social distance, conceptualized by Corrigan et al. (2001) and successfully tested by the authors based on a sample of community college students, could be replicated using data from a representative population survey. Despite differences with regard to stimulus and measurements, we were, in fact, able to replicate most findings. As reported by Corrigan et al., respondents who were familiar with mental illness were less likely to believe that people with mental disorders are dangerous. Weaker perceptions of dangerousness corresponded closely with less fear of such people, which in turn was associated with less social distance. As in the previous study, the effect of familiarity was somewhat pervasive: respondents who reported to be familiar with mental illness expressed a lesser desire for social distance. There was only one difference between the two studies. While, in our study, the relationship between fear and social distance was somewhat weaker, there was a relatively strong direct relationship between perceived dangerousness and social distance. This finding may be the result of differences in method. In our study, instead of the explicit mention of mental illness, unlabeled vignettes depicting a case of schizophrenia or major depression were used, which probably did not have as strong of an impact on the respondents, and did not elicit as strong emotional responses. As expected with schizophrenia, the model explained a larger amount of variance of social distance as compared with major depression, although the difference was not that pronounced.

There is also some evidence from other studies supporting the causal path assumed in Corrigan et al.’s model. In a recent representative survey in the US, it was found that the more the public ascribed dangerousness to people with mental health problems, the more they expressed a preference for greater social distance (Martin et al., 2000). An intervention among school students aimed at reducing the stigma of schizophrenia proved to be successful with regard to prevailing stereotypes (among others, the perception that people with schizophrenia are dangerous). However, there was a statistically non-significant reduction of social distance (Schulze et al., 2003). This suggests that a change of cognitive and emotional aspects of attitudes towards people with mental illness may take place more easily and earlier than a
change in behavioral intentions, a finding which is in line with the sequence of the attitudinal components in our model.

Our findings fully support the conclusions drawn by Corrigan et al. We can also only emphasize the importance of familiarity with mental illness. Approaches that increase the public’s familiarity evidently will decrease the stigma attached to mental illness. People with severe mental illness must have opportunities to contact and interact with the general public. Although the model developed by Corrigan et al. is able to explain a substantial percentage of the variance of social distance (particularly as schizophrenia is concerned), the major part of variance remains unexplained. This indicates that besides the process depicted in Corrigan et al.’s model, there must be other processes influencing the public’s desire for social distance. For example, the tendency to blame those afflicted for their mental illness (Crisp et al., 2000) or the belief that they are incompetent (Pescosolido et al., 1999) may also play a role. Apart from fear, other emotional reactions like anger or a lack of pity are evoked by mentally ill people which, in consequence, may lead to a greater preference for social distance (Angermeyer and Matschinger, 1997). These processes also need to be identified and targeted by anti-stigma interventions.

Finally, some limitations of our study should be mentioned. As with other attitude studies, it remains an open question as to what extent the behavioral intentions measured by the construct of desired social distance actually translate into concrete behavior. However, a recent meta-analysis of all relevant studies suggests that there is a substantial relationship between attitudes and behavior (Kraus, 1995). Another limitation is that our vignettes, although providing a vivid description of someone suffering from mental disorder, cannot mimic real life. Thus, the behavior depicted in the vignette may have had less salience for the interviewees, which may compromise the ecological validity of our findings.

Acknowledgements

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Appendix A. Vignette schizophrenia

Imagine that you hear the following about an acquaintance with whom you occasionally spend your leisure time.

Within the past months, your acquaintance appears to have changed. More and more, he retreated from his friends and colleagues, up to the point of avoiding them. If someone managed to involve him in a conversation, he would address only one single topic: the question as to whether some people had the natural gift of reading other people’s thoughts. This question became his sole concern. In contrast with his previous habits, he stopped taking care of his appearance and looked increasingly untidy. At work, he seemed absent-minded and frequently made mistakes. As a consequence, he has already been summoned to his boss.

Finally, your acquaintance stayed away from work for an entire week without an excuse. Upon his return, he seemed anxious and harassed. He reports that he is now absolutely certain that people cannot only read other people’s thoughts, but that they also directly influence them. He was however unsure who would steer his thoughts. He also said that, when thinking, he was continually interrupted. Frequently, he would even hear those people talk to him, and they would give him instructions. Sometimes, they would also talk to each other and make fun of whatever he was doing at the time. The situation was particularly bad at his apartment, he claimed. At home, he would really feel threatened, and would be terribly scared. Hence, he had not spent the night at his place for the past week, but rather he had hidden in hotel rooms and hardly dared to go out.

Appendix B. Vignette major depressive disorder

Imagine that you hear the following about an acquaintance with whom you occasionally spend your leisure time.

Within the past 2 months, your acquaintance has changed in his nature. As opposed to previously, he is down and sad without being able to make out a concrete reason for his feeling low. He appears serious and worried. There is nothing anymore that will make him laugh. He hardly ever talks, and if he says...
something, he speaks in a low tone of voice about the worries he has with regard to his future. Your acquaintance feels useless and has the impression to do everything wrong. All attempts to cheer him up have failed. He lost all interest in things and is not motivated to do anything. He complains of often waking up in the middle of the night and not being able to get back to sleep. Already in the morning, he feels exhausted and without energy. He says that he back to sleep. Already in the morning, he feels exhausted and without energy. He says that he

References


