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Icelandic inclusion, German hesitation and American fear: A crosscultural comparison of mental-health stigma and the media

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Abstract

Aims: Quantitative survey research findings reveal that Western countries have lower rates of public stigma surrounding mental illness than other nations. However, qualitative media research across selected Western countries reports differences in stigmatising messages. Here, we take an in-depth look at country-level data exploring both similarities and differences in this stigma across three countries. Specifically, we use previous findings on global differences in public stigma and media to examine whether there is a correspondence between themes in newspaper reporting and variations in attitudes across seven stigma dimensions. *Methods:* The Stigma in Global Context – Mental Health Study provides nationally representative data from Iceland (*N*=1033; response rate=71%), Germany (*N*=1255; response rate=63.16%) and the USA (*N*=1425; response rate=67.31%). We limit analyses to respondents who received a vignette describing an individual meeting clinical criterion for schizophrenia or depression. Exploratory data analyses are used to examine overall patterns and cross-national differences. *Results:* Graphical analyses show patterned similarities, especially for more individuals endorsing social distance as contact becomes more intimate. However, results also corroborate cross-national differences documented in media research. More Americans endorse evaluations of dangerousness, to both self and others. Fewer Icelanders report exclusionary tendencies, whilst Germans report the most consistently moderate levels of stigma. *Conclusions:* While Western nations tend to report similar, lower levels of stigma globally, they each have unique areas of concern. Anti-stigma programs must take note of both similarities and differences to tailor their efforts to the local context.

Keywords: Stigma, depression, schizophrenia, media, culture, mental health, mental illness

Introduction

Stigma, the prejudice and discrimination attached to mental illness, continues to be a key factor in negative experiences, opportunity losses and lower life expectancy in the Nordic countries, the rest of Europe and the USA [1–3]. However, following a resurgence in stigma research over the last two decades, a wealth of data has provided a solid scientific foundation to guide anti-stigma campaigns. With the research goal of providing generalisable results, both individual and country-level studies have found significant, robust findings. For example, individuals with previous contact with others who have had mental-health issues report less stigma [3]; sociodemographics (e.g. education) do not appear to be a major explanatory correlate of stigma [4]; and neurobiological attributions of mental illness have gained wide acceptance [5]. Unfortunately, research also reveals that the link between accepting such medicalised views and rejecting stigmatised attitudes is weak or non-existent [6,7].

Comparative, cross-national research also provides salient, consistent findings which suggest broad recommendations for public-health efforts to reduce stigma. First, negative responses to adults with schizophrenia and depression tend to be highly correlated

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across countries. Yet, schizophrenia invokes stigmatising responses from a greater percentage of the population [8]. Second, there appears to be a 'backbone' of stigma. Across 16 countries, at least twothirds of nationally representative respondents indicate that individuals with schizophrenia, for example, should not be allowed to be childcare providers or teachers, and would prefer that these individuals do not marry into their families. Further, the majority of respondents contend that individuals with mental-health problems have a high potential for self-directed violence and for unpredictability [8]. Third, there is no support for the idealistic notion that countries in the Global South or wealthier countries (e.g. lower gross domestic product) are more collectivist, supportive or open with regard to individuals with mental-health problems [9]. Rather, the link between stigma and level of development is rare. Where there are occasional, significant findings, they suggest that individuals from countries in the Global North are less likely to endorse stigma [9]. Fourth, public stigma has a direct association with actual reported experiences of persons with mental illness. Across countries, primarily in Northwest Europe, where much of this research was done, higher levels of public stigma are associated with more individual experiences of stigma, higher suicide rates and greater likelihood of unemployment in times of economic downturn [10-13].

In fact, a number of research reviews provide summaries and corresponding lessons for stigma reduction efforts [14–17]. While these broad overviews focus on similarities that can guide anti-stigma efforts, the question arises as to whether there are unique challenges in addressing stigma, even in countries that are routinely considered similar from a global perspective. However, to our knowledge, little research has addressed this issue.

As an exception, Olafsdottir [18], following Gamson and Modigliani [19], focused on newspaper accounts to capture national cultural profiles. Using coverage from the year 2000 in major newspapers in Iceland (Morgunblaðið), Germany (Frankfurter Allgemeine Zeitung) and the USA (The New York *Times*), she employed a systematic sampling process to examine attributions, treatment sources and other themes in articles addressing mental illness. These findings on stigma-related discourse provide the theoretical context for our analysis here. Her analyses revealed that US newspaper articles more frequently placed blame on individuals and parents, the criminal justice system, charities and the health-care system. Icelandic articles highlighted healthy lifestyle, the key role of family and friends and the ultimate responsibility of society as a whole. German articles avoided beliefs and judgements, focusing more on possible solutions. In essence, US newspaper discourse was more criminalised, with almost half of articles including legal issues (46%) compared to Iceland (18%) or Germany (16%). Icelandic discourse tended to concentrate greater attention on issues of inclusion and solidarity, while German discourse ignored or downplayed potentially stigmatising issues in favour of targeting appropriate and humane solutions to mental-health problems.

Given these findings, which provide a rare insight into subtle differences in how Western nations express concern and prejudice towards people with mental illness, we investigate whether these cultural profiles are reflected in public stigma. Specifically, our overview of global similarities and media differences raises the question of correspondence between differences in newspaper reporting and variations in attitudes. Critically, as cultural sociologists have noted, there is a continuous stream of influence between the public and institutions such as the media [20,21]. Such reciprocity may not allow an examination of causality, but does allow us to explore if and how a country's public opinion and institutions reflect similar perspectives, which would require greater tailoring in public-health efforts than contemporary research implies. Using the unusually rich set of stigma data available through the SGC-MHS, the aim was to take an in-depth, exploratory look into similarities and differences in the three Western nations that Olafsdottir targeted, tapping into seven dimensions and 27 items of a culture's stigma profile.

Methods

Sample and study participants

The SGC-MHS is a face-to-face, vignette-based study of representative, national samples of individuals in 16 countries. Here, we focus on a subset of the three countries in the Global North that were the focus of Olafsdottir's media comparison: Iceland, Germany and the USA. In each country, eligible respondents were non-institutionalised adults (i.e. ≥18 years of age) selected through multistage probability methods. Interviews were conducted by trained staff closely monitored by survey centre personnel who liaised with the SGC-MHS team on translation, data coding and preparation and delivery of data files. Relevant survey organisations were the Social Science Research Institute in Iceland, the Centre for Survey Research and Methodology in Germany, and NORC, University of Chicago, in the USA. All three countries are members of the International Social Survey Program (www.issp.org), an ongoing annual program

Variable	Average/percent		
	Germany	Iceland	USA
Sex			
Female	0.53	0.51	0.53
Male	0.47	0.49	0.47
Age (years)	48.10	43.29	47.36
Respondent race			
White	0.98	0.99	0.77
Any other racial category	0.02	0.01	0.23
Annual household income (median)	€20,280	4,800,000 kr	\$45,000
Annual household income (median) ¹	€20,280	€28,018	€32,375
Marital status			
Married	0.55	0.51	0.49
Widowed	0.08	0.02	0.07
Divorced	0.09	0.05	0.14
Separated	0.02	0.01	0.03
Cohabiting	0.10	0.21	0.08
Single, never married	0.17	0.19	0.18
Education category			
< University degree	0.80	0.77	0.65
University degree +	0.20	0.23	0.34

Table I. Sample demographics for German, Icelandic and American samples of the Stigma in Global Context – Mental Health Study 2006–2011.

¹Median income was standardised to the Euro by taking the 2009 annual average exchange rate (across all months) between the Euro and the Icelandic Krona or US dollar.

of cross-national collaboration amongst leading social science survey researchers. The number of cases, response rates and fielding dates for the specific countries here are: Iceland (N=1033; 71%; 2006–2007), Germany (N=1255; 63.16%; 2005); and the USA (N=1425; 67.31%; 2006). Table I provides basic demographics for each country, with the results indicating broad alignment with census population profiles. However, typical differences from population statistics in survey research (e.g. a slight over-representation of women) were also in evidence.⁸

Ethical approvals

Approval of human subjects for the SGC-MHS as a whole was provided by the Institutional Review Board at Indiana University (Study #04-9051). All country sites also applied for and received approval according to their national requirements.

Instrumentation and measures

The SGC-MHS instrument consisted of two sections. The first section includes 75 items that tapped into substantive issues related to the stigma of mental illness via reference to a specific case (see online Appendix) and more generally with regard to mental illness. Most items in the core interview had been used in previous research, many from extant scales with known psychometric properties. The second part of the interview schedule consisted of an agreed upon set of 14 sociodemographic background variables that were tailored to each nation by ISSP teams.

A vignette strategy was used for three reasons. First, an unlabelled vignette avoids social desirability bias that may be attached to the general term 'mental illness', an object of increasingly intense anti-stigma programming in the Global North. This is also crucial, since providing such a label prevents an understanding of the referent that respondents may attach to the term (e.g. thinking of attention deficit/hyperactivity disorder, schizophrenia, obsessive-compulsive disorder, etc.) and data collection on issues of knowledge, recognition and labelling amongst respondents [20]. These ethnographically grounded vignettes were developed to present symptoms and behaviours of hypothetical persons with two major mental illnesses - schizophrenia and major depression - according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria [22]. An additional physical health problem (i.e. asthma) is not used here. Respondents received one randomly assigned vignette which varied by sex and one in-group/outgroup comparison appropriate for each country (e.g. African American in the USA, Poles in Iceland and Turks in Germany). Surprisingly, but consistently in recent stigma research, these sociodemographics had

little significance [15]. Further, we combined results from respondents who received the mental illness vignettes, given that previous analyses indicated a level difference (i.e. across the board, more respondents endorse stigma for schizophrenia vs. depression) reported in earlier work [8].

Challenges of cross-national comparability were addressed in an 'all country' meeting of survey leaders in Madrid in 2004. An outside psychiatric consultant assessed and revised the vignette approach, which was approved by all parties. A two-step cultural translation process was used which required the traditional translation and back translation, as well as a cognitive interview with native speakers not associated with the mental-health sector. All questions were asked in blocks and in identical order in each country. Instrumentation, including full text of vignettes, is available at (website identifying reference, www.indiana.edu~icmhsr/sgcmhs.html).

Measures

Below, we describe the items by the scale from which they are typically included. However, they are used as individual items, since preliminary analyses indicated that a number of them do not scale equivalently across countries. As such, their psychometric scale properties are not an issue. However, they are kept in a group for conceptual purposes. Fuller descriptions of these scales and their history are available elsewhere [8]. Finally, to avoid cultural differences in the (un)willingness to use extreme categories, each measure is dichotomised into agree and disagree. The overall percentages for the former category are graphed as described below.

Social distance. Social distance preferences were operationalised as responses to six items [20]. They asked whether the respondent was: 'definitely unwilling, probably unwilling, probably willing, or definitely willing' to: (1) 'have [NAME] as a neighbour', (2) 'spend time socialising with [NAME]', (3) 'have [NAME] take care of your children or children you know', (4) 'to make friends with [NAME]', (5) 'to work closely with [NAME] on the job' and (6) 'to have [NAME] marry someone related to you'.

Traditional prejudice. These items adapted prejudice measures associated with race/ethnicity to the case of mental illness. Respondents were asked whether they 'strongly agreed', 'agreed', 'disagreed' or 'strongly disagreed' that (1) 'a person like [NAME] was as intelligent as anyone else', (2) 'people like [NAME] who have jobs are just as productive as most other workers', (3) 'people like [NAME] are just as

trustworthy as anyone else' and (4) 'people like [NAME] are unpredictable' [23].

Exclusionary sentiments. These items tapped willingness to exclude persons with mental illness from the full benefits of citizenship (i.e. to deny them the right to engage in certain activities). These items asked respondents whether they 'strongly agreed', 'agreed', 'disagreed' or 'strongly disagreed' that (1) 'a person like [NAME] should not be allowed to hold public office', (2) 'people like [NAME] should not be allowed to have children', (3) 'people like [NAME] should not be allowed to supervise others', (4) 'if a person like [NAME] is qualified for a job, he or she should be hired like any other person' and (5) people like [NAME] should not be allowed to teach children' [24].

Negative affect. These items captured public views of the difficulty in interacting with people with mental illness [25]. Specifically, respondents were asked to 'strongly agree', 'agree', 'disagree' or 'strongly disagree' that (1) 'people like [NAME] are hard to talk to', (2) 'being around [NAME] would make me feel uncomfortable' or (3) 'being around [NAME] would make me feel nervous'.

Treatment carryover. This measured stigma resulting from receiving treatment, tapping public expectations that persons with mental illness occupy a devalued position in the community [25,26]. Questions asked whether respondents agreed or disagreed that: (1) 'getting mental-health treatment would make [NAME] an outsider in her/his community', (2) 'if [NAME] let people know he/she is in treatment, he/ she would lose friends' and (3) 'no matter how much [NAME] achieves, her/his opportunities would still be limited if people knew he/she had received treatment'.

Disclosure spillover. The SGC-MHS instrument asked respondents whether they agreed or disagreed that (1) '[NAME] should feel embarrassed about his/her situation', (2) 'members of [NAME]'s family would be better off if [NAME]'s situation was kept secret', (3) 'a person like [NAME] has little hope of being accepted as a member of the community' and (4) 'members of [NAME]'s family would be better off if [NAME]'s situation was kept secret' [27].

Perceptions of dangerousness. This stigma variant is based in the public's fear that persons with mental illness represent a threat for potential violence to self and others [28,29]. Two questions asked how likely respondents believed that: (1) '[NAME] would do



Figure 1. Percentage of Respondents who Endorse Stigmatizing Items - Germany, N = 1255; Stigma in Global Context-Mental Health Study.

something violent to others' and (2) '[NAME] would do something violent towards her/himself'.

Analytic strategy

The analysis proceeds in two steps. First, exploratory data analysis [30] is used to summarise, in visual terms, the main characteristics of the data. This is important because the relevant information for tailoring anti-stigma programs lies beyond simple differences. The focus is on differential patterns of national response, rather than differences in levels. Visual methods are more likely to expose meaningful, relevant differences. Second, initial exploratory data analyses are combined with standard statistical approaches to examine whether key visual differences are greater than would be expected by chance. Controlling for vignette type (schizophrenia or depression), sex, and in-group/out-group variants in those vignettes, logit regression models were employed to estimate predicted differences between each country. Using post estimation [31], these predicted values were tested for statistical difference at p < 0.05 (two-tailed test; see tables in online Appendix). All analyses are estimated using Stata v14.1.

Results

Figures 1–3 present graphs indicating the level of endorsement for each of the seven dimensions (indicated by different colours) and 27 items (indicated by each of the wedges) for Germany, Iceland and the USA. Sometimes referred to as a radar or spider plot, each wedge represents the percentage of individuals in that country who endorse a particular item. The circle marked by a dashed line marks a 50% referent.

A number of visual differences stand out. First, one of the most pronounced differences is regarding the issue of danger. More US respondents endorse items that ask whether the vignette individuals are likely to do something violent to themselves (79.4%) than do those in Iceland (71.7%; p<0.01) or Germany (56.3%; p<0.001). Even more striking is the between-country difference with regard to 'danger to others' (the smaller red edges), where levels in the USA are about three times higher than in Iceland (45.5% vs. 15.2%; p<0.001) and nearly two times higher than in Germany (45.5% vs. 24.1%; p<0.001).

Second, measures of exclusion (i.e. orange wedges) are lowest in Iceland, with nearly equivalent percentages of Americans and Germans endorsing these



Figure 2. Percentage of Respondents who Endorse Stigmatizing Items - Iceland, N = 1033; Stigma in Global Context-Mental Health Study.



Figure 3. Percentage of Respondents who Endorse Stigmatizing Items - USA, N = 1425; Stigma in Global Context-Mental Health Study.

items. Specifically, respondents in Germany and the USA were less likely than individuals in Iceland (p<0.05) to think that individuals with mental illness should be allowed to have children, hold public office, supervise others at work or teach children. However, respondents in Iceland and the USA were more similar on hiring, with a lower percentage of individuals endorsing discrimination than individuals in Germany (p<0.05).

Third, with regard to disclosure spillover (i.e. orange wedges), the USA is an outlier in terms of the much lower percentage of individuals who report that disclosure of a mental illness would be a source of shame or would result in rejection from community (see table 4 in online Appendix; p < 0.05). A similar percentage of US and Icelandic respondents said that individuals with mental illness should be afraid to disclose their mental illness (16.2% and 12.7%; p=n.s.) compared to Germany, where the percentage was considerably higher than both the USA and Iceland (25.1%; p<0.05). Last, Germany again had the highest percentage of respondents suggesting that individuals should keep their illness a secret (21.2%) compared to the USA (13.6%; p < 0.05) and Iceland (9%; *p*<0.05).

While it appears that there are other visual differences (e.g. the highest level of social distance for childcare), the general pattern of social distance (green wedges) across the three countries is similar. Similar patterns are also apparent for negative affect (purple wedges) and treatment carryover (dark-grey wedges).

A more subtle cross-national difference appears by comparing the radar plots as a whole. The lowest level of stigma across many of the items appears to be in Iceland. However, in Germany, the levels of stigma across items seem to be most consistent (i.e. at the same or similar percentages of individual response). In Germany, the percentage concerned with lack of productivity is similar to that of the USA and Iceland, but on other measures, most importantly unpredictability, fewer respondents endorsed that dimension of stigma.

Discussion

Olafsdottir [18] locates her newspaper findings for these three countries in their differential positions in the world system, different social organisations of welfare and different relationships between the state, market and medicine. While it is beyond the scope of this paper to adjudicate such influences, the results clearly indicate that the similarities of these Western nations in their position among the 16 SGC-MHS countries [9] are tempered by subtle and not-so-subtle differences. Importantly, this corroborates the differences found in a detailed content analysis regarding major themes in national newspapers in each country.

Analyses of the media and of public attitudes have a long history of trying to understand the nature, roots and directions for change in the prejudice and discrimination associated with mental illness. Comparative research across countries using similar methods has been less common and has focused primarily on broad similarities and differences. This research has been critical in establishing the role of larger cultural context on the day-to-day lives of people with mental illness, for example Evans-Lacko [13], in under-cutting myths about the nature of stigma in the Global North and Global South [9] and in separating critical stigma targets for changes from ones that the public has already downplayed [8]. While the search for broad similarities and differences was the necessary first step, we take the next step - to look for subtle differences amongst countries widely considered to have similar stigma profiles.

Our results suggest that there are unique issues that should be considered in stigma reduction efforts, even in similarly positioned countries. Importantly, these appear to be embedded in the larger culture and reflected in stigma as well as the media. As noted earlier, we make no claims about causality here because social science theorists have emphasised the reciprocal relationship between the media and all aspects of society, including attitudes and values [32]. There is general agreement that the media provides the public with a way to organise information and beliefs [33]. Traditionally, labelling theorists have found that those who have not had contact with people with mental-health problems rely more on media images than others do [34].

Specifically, both newspaper coverage and public opinion in the USA appear to highlight issues of dangerousness. This is both an emphatic concern for suicide amongst persons with mental illness and a stigmatising focus on the likelihood of violence towards others amongst those with mental illness [29]. However, in the USA, there is also a corresponding willingness to discuss these issues, as reflected in lower levels of disclosure spillover [35]. In Iceland, items that support exclusion receive significantly lower levels of endorsement than in either the USA or Germany. This coincides with the emphasis on social solidarity and societal responsibility that Olafsdottir found in Icelandic newspaper reporting. Finally, the German levels of stigma reflect the most moderate, consistent levels, devoid of positive or negative extremes seen in the other two countries. Olafsdottir reports a measured discussion of mental

illness in their newspaper reporting, as evidenced by the absence of discussion of controversial causes or consequences of mental illness.

These differences do not extend to all dimensions of stigma. In particular, the most commonly used measure, social distance, also appears to be the most similar across countries. There are differences in stigma levels, but the pattern is surprisingly similar, with the lowest levels of stigma seen for interactions as neighbours, friends and/or social evening partners. More and more individuals in each country endorse work, marriage and childcare. This suggests that concerns regarding the cross-country validity of stigma measures may be lowest for measures of social distance, an important issue for future cross-national research.

Of course, there are limitations with the analyses presented and the SGC-MHS more generally. Our choice of countries was not random. Whilst all ISSP countries (>40) were invited to participate in the SGC-MHS, many chose not to, and others did not fit the inclusion requirements (e.g. used only mail-out surveys which would introduce a mode difference). Further, discussions continue regarding problems of cross-national comparability of items and cultural differences in social desirability bias. However, to date, the SGC-MHS represents one of the most carefully designed and implemented cross-national studies of stigma, and provides data on more dimensions of stigma than have generally been previously available.

Conclusion

Efforts to reduce stigma are considered stronger when they are based on evidence on the nature and roots of stigma, how media affects individuals and how dimensions of contact can humanise a distorted cultural image of people with mental-health problems [36]. While research is increasingly more solid and rigorous at individual and national levels, the body of evidence tends to emphasise the similarities of prejudice and discrimination. Our analysis of multiple dimensions of stigma in three Western nations focuses on differences. The results find both similarities (e.g. in social distance, exclusionary sentiments and treatment carryover) and differences (US high endorsement of violence items). Anti-stigma programs need to be aware of these cultural similarities and differences suggested in the research.

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References

- Wahlbeck K, Westman J, Nordentoft M, et al. Outcomes of Nordic mental health systems: Life expectancy of patients with mental disorders. *Br J Psychiatry* 2011;199: 453–458.
- [2] Chang C-K, Hayes RD, Perera G, et al. Life expectancy at birth for people with serious mental illness and other major disorders from a secondary mental health care case register in London. *PLoS One* 2011;6:e19590.
- [3] Couture S and Penn DL. Interpersonal contact and the stigma of mental illness: a review of the literature. *J Mental Health* 2003;12:291–305.
- [4] Martin JK, Pescosolido BA, Olafsdottir S, et al. The construction of fear: modeling Americans' preferences for social distance from children and adolescents with mental health problems. *J Health Soc Behav* 2007;48:50–67.
- [5] Pescosolido BA, Martin JK, Long JS, et al. 'A disease like any other?' A decade of change in public reactions to schizophrenia, depression and alcohol dependence. Am J Psychiatry 2010;167:1321–1330.
- [6] Olafsdottir S and Bernburg JG. Stigma and mental illness: a three-country comparison. *Íslenska Þjóðfélagið* 2010;1: 69–94.
- [7] Schomerus G, Schwahn C, Holzinger A, et al. Evolution of public attitudes about mental illness: a systematic review and meta-analysis. *Acta Psychiatr Scand* 2012;125:440–452.
- [8] Pescosolido BA, Medina TR, Martin JK, et al. The 'backbone' of stigma: identifying the global core of public prejudice associated with mental illness. *Am J Public Health* 2013;103:853–860.
- [9] Pescosolido BA, Martin JK, Olafsdottir S, et al. The theory of industrial society and cultural schemas: does the 'cultural myth of public stigma' underlie the WHO schizophrenia paradox? *Am J Sociol* 2015;121:783–825.

- [10] Evans-Lacko S, Brohan E, Mojtabai R, et al. Association between public views of mental illness and self-stigma among individuals with mental illness in 14 European countries. *Psychol Med* 2012;42:1741–1752.
- [11] Evans-Lacko S, Henderson C and Thornicroft G. Public knowledge, attitudes, and behaviour regarding people with mental illness in England 2009–2012. Br J Psychiatry 2013;202:S51–S57.
- [12] Schomerus G, Evans-Lacko S, Rusch N, et al. Collective levels of stigma and national suicide rates in 25 European countries. *Epidemiol Psychiatr Sci* 2015;24:166–171.
- [13] Evans-Lacko S, Knapp M, McCrone P, et al. The mental health consequences of the recession: economic hardship and employment of people with mental health problems in 27 European countries. *PLoS One* 2013;8:e69792.
- [14] Evans-Lacko S, Malcolm E, West K, et al. Influence of Time to Change's social marketing interventions on stigma in England 2009–2011. Br J Psychiatry 2013;202:s77–s88.
- [15] Pescosolido BA and Martin JK. The stigma complex. Annu Rev Sociol 2015;41:87–116.
- [16] Stuart H, Arboleda-Florez J and Sartorius N. *Paradigms lost: fighting stigma and the lessons learned*. New York: Oxford University, 2012.
- [17] National Academies of Science, Engineering, and Medicine. Ending discrimination against people with mental and substance use disorders: the evidence for stigma change. Washington, DC: The National Academies Press, 2016.
- [18] Olafsdottir S. Medicalization and mental health: the critique of medical expansion, and a consideration of how national states, markets, and citizens matter. In: Pilgrim D, Rogers A and Pescosolido BA (eds) *The Sage handbook of mental health and illness*. London: Sage, 2011, pp.239–260.
- [19] Gamson WA and Modigliani A. Media discourse and public opinion on nuclear power: a constructionist approach. Am J Sociol 1989;95:1–37.
- [20] Martin JK, Pescosolido BA and Tuch SA. Of fear and loathing: the role of disturbing behavior, labels and causal attributions in shaping public attitudes toward persons with mental illness. *J Health Soc Behav* 2000;41:208–233.
- [21] DiMaggio P. Cultural networks. In: Scott J and Carrington PJ (eds) *The Sage handbook of social network analysis*. Thousand Oaks, CA: Sage, 2011, pp.286–300.

- [22] American Psychiatric Association. *Diagnostic and statistical manual of mental disorders: DSM-IV-TR*. Washington, DC: American Psychiatric Association, 2000.
- [23] Schuman HS, Steeh C and Bobo L. Racial attitudes in America: trends and interpretations. Cambridge, MA: Harvard University Press, 1985.
- [24] Link BG, Cullen FT, Struening EL, et al. A modified labeling theory approach to mental disorders: an empirical assessment. Am Sociol Rev 1989;54:400–423.
- [25] Link BG, Yang LH, Phelan JC, et al. Measuring mental illness stigma. Schizophr Bull 2004;30:511–541.
- [26] Rosenfield S. Labeling mental illness: the effects of received services and perceived stigma on life satisfaction. Am Sociol Rev 1997;62:660–672.
- [27] Corrigan PW and Matthews AK. Stigma and disclosure: Implications for coming out of the closet. *J Mental Health* 2003;12:235–248.
- [28] Link BG, Phelan JC, Bresnahan M, et al. Public conceptions of mental illness: labels, causes, dangerousness and social distance. *Am J Public Health* 1999;89:1328–1333.
- [29] Pescosolido BA, Monahan J, Link BG, et al. The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *Am J Public Health* 1999;89:1339–1345.
- [30] Tukey JW. Exploratory data analysis. Reading, MA: Addison-Wesley, 1977, p.688.
- [31] Long JS and Freese J. Regression models for categorical dependent variables using Stata. 3rd ed. College Station, TX: Stata Press, 2014.
- [32] Habermas J. Between facts and norms. Cambridge, MA: MIT Press, 1997.
- [33] Benson R. Bringing the sociology of media back in. *Political Commun* 2004;21:275–292.
- [34] Goffman E. Stigma: notes on the management of spoiled identity. Englewood Cliffs, NJ: Prentice-Hall, 1963.
- [35] Swindle R, Heller K, Pescosolido BA, et al. Responses to 'nervous breakdowns' in America over a 40-year period: mental health policy implications. *Am Psychol* 2000;55:740–749.
- [36] National Academies of Sciences, Engineering, and Medicine. Ending discrimination against people with mental and substance use disorders: the evidence for stigma change. Washington, DC: National Academies Press, 2016.