

2 Cross-Cultural Aspects of the Stigma of Mental illness

**Bernice A. Pescosolido¹, Sigrun Olafsdottir², Jack K. Martin^{1,3}
and J. Scott Long¹**

¹*Department of Sociology, Indiana University, Bloomington, IN 47405, USA*

²*Department of Sociology, Boston University, Boston, MA 02215, USA*

³*Karl F. Schuessler Institute for Social Research, Indiana University, Bloomington, IN 47405, USA*

Prepared for *Stigma in Mental Health: Interventions to Reduce the Burden*, J. Arboleda-Florez and H. Stuart (eds.) John Wiley & Sons, Ltd. Based on a presentation at the World Psychiatric Association International Congress, October 2006, Istanbul. We acknowledge support from the Fogarty International Center, the National Institute of Mental Health and the Office of Behavioral and Social Science Research, all of the U.S. National Institutes of Health (Grant No.5 R01 TW006374). We also acknowledge financial support for the Icelandic data from the Icelandic Centre for Research and the University of Iceland.

Introduction

As noted in *Healthy People 2010* [1], a striking finding of the landmark Global Burden of Disease Study [2] lies in the world-wide impact of mental illness on overall health and productivity. Profoundly under-recognized, mental illness constitutes 11% of the global burden of disease, with major depression alone currently ranking fourth and expected to rise to second by 2020. In some regions of the world (e.g., Western Pacific), mental disorders already represent the largest contributor to the total disease burden, and there is great concern with the “mortality crisis” related to mental illness in Eastern Europe [3].

In the face of these concerns, the World Health Organization’s (WHO) International Pilot Study of Schizophrenia (IPSoS), the International Study of Schizophrenia (ISoS) and the Study of the Determinants of Outcomes of Severe Mental Disorders (DOSMD) have all documented enormous heterogeneity in the outcomes of mental illness within and across countries [4–7]. While it is generally agreed that the reasons for these differences are “far from clear” [5], one predominant explanation revolves around culturally defined processes. Scholars and policymakers alike suggest that stigma may be the reason behind such findings and lies at the root of recovery from mental illness [8]. As such, understanding the cultural contexts that facilitate good outcomes may offer a lever for stigma reduction. In particular, whether individuals and others around them recognize mental illness, stigmatize these conditions and support seeking care is critical, since each represent key aspects of culture that can influence the outcome of mental illness [9,10].

Not surprisingly, there have been calls for systematic, comparable studies of stigma within and across social and cultural contexts in order to understand its origins, meanings and consequences [3, 4, 11–13]. Despite these calls and findings that document the pervasive existence and impact of stigma in different countries [14–18], we know relatively little about the cross-cultural distribution of stigma. Researchers across the globe have collected data on stigma, but differences in samples (often student or provider samples) and instrumentation make it difficult, if not impossible, to compare findings. Thus, questions about whether and how the social reaction to mental illness varies across countries, whether the underlying operative processes are similar, and whether it maps onto the distribution of outcome heterogeneity remain unanswered. Not surprisingly, then, the important question of whether these differences can offer a wedge into decreasing stigma's negative impacts, also remains unanswered.

In sum, while the influence of cultural context on health and well-being is widely acknowledged, the empirical literature on the cross cultural nature of stigma remains underdeveloped [19]. The World Psychiatric Association's (WPA) Global Programme Against Stigma and Discrimination Because of Schizophrenia [20] has encouraged the development of a comparative catalogue of information and, to date there have been only a few large-scale studies (e.g., in Canada, the U.K., the U.S. and Germany). Even recent cross-national efforts, while springing from and being influenced by the WPA initiative, have not been linked in practice, making inference about comparative influences difficult. Moreover, there has never been, to our knowledge, a methodologically coordinated attempt to understand the extent to which mental illness is understood and stigmatized across countries (e.g., as an exception, see [21] for a comparison of the attitudes of German and U.S. high school students and mental health staff).

To answer this call and begin to explore the insights that differences across societies might offer to combat the stigma of mental illness, the Stigma in Global Context – Mental Health Study (SGC-MHS) was launched with the support of the U.S. National Institutes of Health (through the Fogarty International Center in collaboration with the National Institute of Mental Health and the Office of Behavioral and Social Science Research) and the Icelandic Centre for Research. The SGC-MHS is a theoretically based and methodologically coordinated collaborative study of the levels and correlates of the stigma of major depression and schizophrenia in 15 nations around the world.

Our goal here is to introduce the SGC-MHS by presenting early results from five European countries (Bulgaria, Germany, Hungary, Iceland, and Spain), focusing on three issues closely related to recovery – work, marriage and community acceptance. Since the ISoS found that the greatest differences in recovery across countries align with a nation's level of development, the descriptive findings presented here may offer a conservative view of cross-national variation. By focusing on one continent, albeit with countries with varying GDPs and political and health care systems, this first exploration provides only an indicator of the potential for comparative analyses to assist the development of stigma-reduction efforts.

We begin by reviewing what we know about stigma from the wide range of studies that have been done. We then focus on studies of the outcomes of mental illness, first targeting the shift in emphasis from symptoms to "recovery" in its current usage, and then laying out arguments that have been made about the role of stigma in understanding outcomes. A brief description of WHO efforts on outcomes and some conclusions that appear in the scientific literature follows. After providing the background orientation for the SGC-MHS, we lay out

the design and methods for the study and present descriptive findings on Europe as outlined above. We conclude by discussing the next steps for the SGC-MHS and its implications for stigma reduction.

Taking Stock: Stigma in Cross-Cultural and Historical Frames

Stigma is an attribute that marks a person as tainted, calls their identity into question, and allows them to be devalued, compromised, and considered “less than fully human” [22, 23]. Thus, stigma deprives people of their dignity, challenges their humanity, and interferes with their full participation in society [24]. Fabrega [15] describes the pervasiveness of stigma historically and cross-culturally, and empirical studies reveal both the similarities across countries and changes over time. Importantly, the focus of the impact of stigma has broadened as research has continued, and as “recovery” has become the primary goal for practitioners, consumers, and advocacy groups. As Ware and colleagues have noted, too often persons with mental illness are “in the community, but not of it.” To increase social integration, they argue that both professionals and policymakers should focus on “connectedness” and “citizenship” [25, p. 469].

Below, we describe the widening concerns, the range of cross-national findings, and what we have begun to learn about large-scale changes in stigma.

Domains and Domain Shifts in the Study of the Outcomes of Mental Illness

Etiological issues aside, earlier work from the medical sciences focused on basic issues related to the “success” of the treatment of mental illness. Symptom reduction, rehospitalization, mortality, and debates about the course of diseases such as schizophrenia [26, 27] dominated the research discourse in psychiatry, psychology and mental health services research. Goffman’s 1963 classic work [28] put stigma at the forefront of most social science discussions of the outcomes of mental illness and received at least a passing mention in most other research. Social scientists, including those in public health, tended to focus more intensely on broader, community-based issues including lower quality of life, well-being, marriage and work possibilities, persistent social stress and low self-esteem [29–34].

However, with deinstitutionalization, the shift to community-based care, and growing calls for multidisciplinary work, outcome studies have become more integrated, inclusive, and multi-faceted, documenting the profound effects of stigma, including interference with the process of recovery [18, 35], the loss of legal rights [36], and discrimination, even among practitioners in both the general and mental health system [37, 38]. Researchers documented distressingly poor outcomes for mental illness cross-nationally. In Hong Kong, Mak and Gow [39] found former psychiatric patients living in deprived conditions regarding housing and social life, and reported that the lives of these people existed on the margins of society [31] in Austria; also [40] in Canada). In Singapore, former patients reported that stigma affected their self-esteem, relationships and job opportunities [41]. In Israel [42] and Australia [43], stigma resulted in an avoidance of mental health services [43]. Finally, these studies, as well as one from Nigeria, reported a greater social and medical vulnerability of persons with mental illness, compared to individuals with coronary disease, tuberculosis or cancer [44].

Only recently have we begun to get a picture of the larger, temporal dynamics of stigma. Pioneering survey work, begun in the U.S. in the 1950s [45–48] and continued in the

decades that followed, documented both the lack of understanding of mental illness, negative attitudes surrounding issues of cause, treatment and outcome, and a high level of public sentiment that favored the social rejection of persons with mental illness [21, 49–52]. However, innovations in treatment, advances in scientific knowledge, shifts in the locus and philosophy of treatment, and growth of a consumer advocacy movement shaped professional perceptions of stigma, and were often hailed as decreasing community-based stigma. Yet, such conclusions were based, almost exclusively, on personal observation and anecdotal evidence ([53–58]; see [59] for a review).

In the 1990s, researchers took up the challenge of collecting contemporary evidence, and where possible, matching it to data from the past. This growing body of empirical studies gives cause for both hope and despair. Several high-quality, representative regional and national studies report remarkably consistent findings, at least in Western nations. They indicate that the American, British, Irish and Canadian publics display a high level of acceptance of scientific advances marking biological and genetic causes of mental health problems; an acknowledgement of, and differential response to types of mental health and substance abuse problems (e.g., depression, schizophrenia, addictions); and a recognition of the existence of (and support for) effective treatments [14, 16, 17, 60]. Contact with persons with mental health problems was broadly in evidence. About half of those studied across surveys reported knowing someone with a mental health problem or someone who had used services or received some kind of treatment. In fact, in the American case, the MacArthur study was able to mark a real increase in public sophistication and knowledge of these matters over the last 40 years [59, 61, 62].

Coupled with these positive findings, other data revealed a darker side to cultural changes. A majority of the American and Canadian publics reported an unwillingness to work alongside or have intimate connections with persons with mental illness [17, 61, 63]. Many also agreed with images of persons with mental illness as unpredictable and dangerous. For example, in the U.S., where comparable data over time were available, Phelan et al. [59] reported an actual doubling, since the 1950's, in spontaneous mentions of violence as descriptive of persons with mental illness. Further, a majority of respondents appeared to be quite willing to use legal means to coerce individuals into a range of treatments (e.g. doctors, clinics, hospitals), with near unanimous support for this approach when persons, despite the description of their problems, were labeled as “dangerous to themselves or others” [64].

Similarly, studies in other countries that targeted shorter time frames also reported mixed findings. In Hong Kong, public concerns decreased and knowledge of mental illness increased, but attitudes toward persons who had been treated in the mental health system had become slightly more negative [65]. In Canada, Brockman and D'Arcy's [66] restudy of the classic Cumming and Cumming study [47] found only slight improvements. In Greece, among a very select sample, Lyketsos and colleagues [67] found little change over a 2-year period. However, Paykel et al. [68] found significant and positive changes regarding public attitudes toward depression in Great Britain from 1992 to 1996. In sum, this body of existing research shows deep and widespread negative attributes, reactions, and affect toward people with mental illness, together with increasing sophistication regarding causes and treatment.

In tandem with these research efforts, a set of clinically-based studies of the treated population of persons with schizophrenia and other serious mental illnesses has raised intriguing questions about stigma and its influence on outcomes. We turn to these studies.

Stigma and the International Study of Schizophrenia: The Paradox of Development

Technically, the WHO's efforts to study schizophrenia represent a sustained research agenda which began in the late 1960s and has spanned 30 research sites in 19 countries. According to Hopper and his colleagues [69], the initial effort, the International Pilot Study of Schizophrenia (IPSS), helped establish the feasibility of such large scale studies while the second, the Determinants of Outcomes of Severe Mental Disorder (DOSMeD) replicated the initial IPSS finding that individuals who had more positive outcomes were likely to be found in those countries crudely classified as "developing". Further, the most recent study, the ISoS, attempted to follow-up on this striking finding while correcting, where possible, for earlier methodological limitations which hindered claims of generalizability. Like the studies that came before, the ISoS continued to document better outcomes for those outside of the "developed" world [6].

Given that a country's participation in these studies is voluntary and unfunded through a central source, the range and depth of these studies is truly impressive. That said, even with the ISoS, the set of sites involved is neither representative of existing countries nor large in number. What becomes remarkable in the face of limitations is the robustness of the finding noted above: Individuals who have been diagnosed as having schizophrenia or other serious mental illnesses appear to report better outcomes if they live in regions of the world considered to be "developing," rather than those considered to be "developed." Although social scientists have been increasingly skeptical of this particular conceptual distinction, the finding that individuals in Latin America, Africa or Asia seem to "do better" than those who live in the United States or Western Europe has been called "durable" [4, p. 836] and "the single most important finding" in comparative mental health services research [70].

To evaluate this finding in the context of the strengths and limits of the studies, Hopper and Wanderling [4] have provided the most thorough consideration and analysis of the developed-developing difference in the ISoS. Following up on the initial findings with data 13 years later and with two additional samples, they find that the outcomes of illness trajectories for study participants continue to favor the developing world. They go further to assess specific sources of potential bias including differences in follow-up methods, the grouping of data, ambiguities in diagnosis, selective outcome measures, and sociodemographic differences (i.e., gender, age) among the study participants. Finding that none of these can explain the differences in illness course and outcomes, they suggest that further research needs to focus on "the cultural", including "auspicious or alternative beliefs" [4, p. 843].

While Hopper and Wanderling are clear about the complexity of what "culture" means to the entire course of an illness and the illness career it shapes, they nonetheless suggest that it is the local context that matters. And, while they are skeptical about the ability of structured questionnaires to get at the "local", particularly everyday experiences, we believe that such approaches can at least explore, if not capture, the local cultural context of attitudes, beliefs, hopes and fears that surround the onset, recognition and response to mental illness. Such aspects of the non-material culture, according to the "new" sociology of culture, represent tools in a cultural toolkit that individuals can draw from as necessary to face life situations [71, 72]. This toolkit, shaped by the larger cultural climate, holds the resources that individuals, their families and others in the community use to understand the experience of mental illness; categorize problems, prospects and sources of care, and make decisions about their own behavior and, often, that of others [73, 74].

In sum, whether these beliefs, attitudes and opinions reveal concern, fear, or treatment efficacy, they reflect the prejudice and the potential for discrimination which fits our common understanding of the stigma that surrounds mental illness. The SGC-MHS was designed to take advantage of the opportunity to examine cross-national variation in cultural context and begin to calibrate how this one aspect of culture aligns with or contradicts our concerns about the differences in outcomes. In the next section, before we describe the specifics of the SGC-MHS, we discuss how the WHO paradox, coupled with other theoretical and empirical work on stigma and outcomes, motivated the specific study goals.

The Cultural Context of Stigma: How Do Countries Differ?

In the previous section, we brought together existing evidence of the breadth and depth of stigma across countries and provocative cross-national findings in what empirical work exists. Thus, while stigma is seen as “cross culturally ubiquitous” [24, 75], the earliest work [28] to the most recent [15, 24] conceptualizes stigma as a phenomenon shaped by cultural and historical forces. Early on, anthropologists described the different ways that cultures shape how individuals with mental illness are viewed and treated (e.g., [21, 76]). More recently, Lefley [77] contends that chronicity, itself, is a cultural artifact based, at least in part, on differing worldviews, religious traditions, the role of alternative healing systems, and differences in the cultural value of interdependence.

Even studies that have documented differences in outcomes for persons with mental illness across countries point to and call for further investigations across cultural contexts (see also [12, 24]). They suggest that future research must identify the collective properties of social, cultural, economic and physical environments that influence health and disease outcomes. And, the sheer range of differences that Lefley [77] describes above can be enormous. For example, Sartorius [78] reports that the ratio of psychiatrists to the population ranges from 1:1,000-5,000 in the more developed societies (e.g., Europe) to 1: 50,000-100,000 in the developing world to only 1:5,000,000 in some African countries. Of course, this is not independent of the availability of economic capital in a society which needs to be considered as well. For example, the WHO reports that countries in the Western Pacific Region devote less than 5% of their small health budgets to mental health and neurological disorders [79, p. 121]. Thus, existing research suggests that we need to examine cross-cultural issues directly, rather than making assumptions about their correlation with broad categories.

Even under the best designs, the ability to examine all of these issues fully is limited by funding and by the willingness and ability of researchers in different countries to mount a study to provide information about cross-national differences. Indeed, the existence of sufficient research infrastructure to mount such research reflects both happenstance (e.g., whether any individuals were trained in survey research methodology), and the existing resources of a country that enable a national-level study. Thus, as we undertook the SGC-MHS, we sought to focus on coverage, comparability, and representativeness. We describe the end result next.

The Stigma in Global Context – Mental Health Study: Foundations

The SGC-MHS basic questions are, at base, descriptive: Do people’s attitudes, beliefs and behavioral predispositions vary in response to descriptions of persons with symptoms/

behaviors that meet criteria for two major mental illnesses – schizophrenia and depression? And if so, how do they vary? The study does not target only conventional measures of stigma, per se, but seeks to understand what cross-national differences exist across a number of cultural factors that may play a role in shaping the response to mental illness. These include the profiles/levels of knowledge of mental illness, assessments of severity, recognition of and attribution for the profiles provided, the degree of prior contact with persons with mental illness, stigmatizing responses such as negative characterizations (e.g., dangerousness, long term negative impact) or rejection (e.g., a desire for social distance), and evaluations of the need for and utility of treatment, including specific provider types (e.g., “doctors”, psychiatrists).

At this writing, we are still in the field for many countries. So, we focus on our basic question with a broad-brush, inductive look at one continent, Europe. However, even with this preliminary look, we pay attention to the findings of the WHO studies: Does it appear, even at this point, that countries with higher levels of economic capital vary systematically in public attitudes toward mental illness?

The Design of the SGC-MH Project

Critical to a sound cross-national study is the assurance that, to the degree possible, each country will approach the collection of data in the same way, both logistically and culturally. To help ensure this, the SGC-MHS was based on an existing infrastructure with a history of cross-national collaboration and strict rules for the data collection of their own projects. The “platform” for the SGC-MHS is *The International Social Survey Program* (ISSP). The ISSP is an on-going, annual program of cross-national collaboration that brings together an international cadre of leading social scientists and expert survey researchers.

The SGC-MH study is not a part of the standard ISSP research program which involves modules developed and approved by the participants. Rather, we used the ISSP as an organizing platform to ensure the collection of high quality data, to select survey organizations with an established record of routine and successful cross-national collaboration, and to ensure a set of agreed-upon principles relative to sampling, data collection procedures, fielding guidelines, codebook construction, data sharing, and archiving.

We established a translation procedure which began with ISSP standard approaches but was supplemented with an in-house “cultural” review with a native speaker who was asked to give an oral translation of the target language instrument without having seen the original English language instrument. This allowed both an extra eye to culturally relevant language usage that enabled us to correct poorly worded items caused by too literal translation, and an opportunity to ask people from that country questions about local idioms, the nature of the mental health treatment system, and their perceptions about cultural differences that could potentially affect data collection. These individuals were not experts in the field of mental health and illness, nor were they professional translators; rather the primary criteria were fluency in both English and the target language, and cultural fluency gained from recent experience living in that country. With the information gathered during these sessions, which averaged in length from 3 to 4 hours, we returned to each country’s survey team with a set of questions, suggestions and concerns to negotiate a final instrument that was tailored for naturalness while maintaining the meaning necessary for comparability across countries.

Sampling and Fielding

Eligible respondents were non-institutionalized adults (i.e., eighteen years of age or older). Individuals who resided in institutional settings (e.g., hospitals, prisons, etc.) were not included in the sample frame. The selection of sample elements across all national cross-sections was based on multi-stage probability methods. Within each nation, sample weights were computed to offset any potential biases; however, analyses of the weighted and unweighted data revealed few systematic differences. Therefore, we utilize the unweighted data, unless otherwise indicated.

The complexity of the vignette strategy required face-to-face personal interviews conducted by trained interviewers. In line with ISSP procedures, all field data collection efforts were closely monitored by survey center employees who also served as liaisons to the SGC-MH team for translation, data coding and preparation and delivery of the data file.

Interview Schedule

The SGC-MH interview schedule consisted of two parts. The first 15 minutes tapped substantive issues related to the stigma of mental illness, with reference to the vignette person and more generally with regard to mental illness. These questions were asked in a single block, and in identical order for each country. The second part of the interview schedule consisted of an agreed upon set of background variables that have been tailored to each nation by the ISSP. The Zentralarchiv (the ISSP designated Archive in Germany; www.issp.org) holds a volume describing these background and socio-demographic variables which provide the basis for a comparable, but tailored, approach. To respond to specific theoretical, ethical, or cultural issues, any individual question was omitted after negotiation between the SGC-MHS team and survey center liaisons.

Vignettes

As discussed earlier, much of the SGC-MHS instrument involved assessing respondents' reactions to and evaluations of the individual described in the hypothetical scenario. These vignettes described a person meeting criteria for a DSM-IV diagnosis of major depression, schizophrenia, or a physical health problem – in this case, asthma. Within vignettes, the individual's race or ethnicity and gender were randomly assigned. Previous research suggests that this strategy avoids the problem of identifying and labeling a "case" for the respondent as someone who is "mentally ill", and allows for better data collection on issues of knowledge and labeling [63]. In the current study we relied on two such unlabelled mental health vignettes (schizophrenia and major depression), and one physical health problem (asthma). Wording for the mental health problem vignettes was evaluated for accuracy by members of the nation-specific research teams and an international psychiatrist. Vignettes were randomly assigned to respondents.

Unlike the ISSP where non-literal translations are discouraged, and in addition to the second step cultural translation described above [82], the instrument was culturally tailored on two distinct issues. First, the SGC-MHS is primarily vignette-based, describing (but not categorizing) a person who meets clinical criteria for schizophrenia or depression. The vignettes were initially developed in accordance with the DSM-IV but were revised for cross-cultural applicability by the group of survey research experts leading each country's effort in an early international meeting in Madrid in 2004. Indeed, even the selection of

which disorders to include was decided during the Madrid meeting. The vignettes were examined; rewritten for cultural applicability by a psychiatrist who had been involved in the WHO studies; and approved by the larger group. Second, the labels applied in the interview schedule were modified to include and/or substitute culturally relevant idioms (see below for a description of the vignette strategy). In addition, the list of “providers,” particularly regarding traditional or indigenous healers, was matched to parameters of the local formal and informal health care systems in each country.

The Present Analysis

For the analyses we present here, data came from 5 European countries and were collected by five survey organizations: 1) The Agency for Social Analysis, Sofia (Bulgaria); 2) Zentrum für Umfragen, Methoden und Analysen (ZUMA), Mannheim (Germany); 3) TARKI, Social Research Center, Budapest (Hungary); 4) Félagsvísindastofnun, Reykjavik (Iceland); and 5) Analisis Sociologicos, Economicos Y Politicos, S.A. Madrid (Spain). The sampling procedures described earlier yielded samples of 1,121 respondents in Bulgaria, 1,255 respondents in Germany, 1,252 respondents in Hungary, 1,033 respondents in Iceland, and 1,206 respondents in Spain. Thus, the combined five nation sample we examine here is comprised of 5,867 respondents. Also, for the purposes of the current study, we only examined responses to the mental illness vignettes (i.e., major depression and schizophrenia). Thus, by eliminating respondents who received the asthma vignette, we reduced the nation-specific sample sizes by roughly one-third. The resultant samples that provide the data for our subsequent analyses are comprised of 764 respondents in Bulgaria, 847 in Germany, 840 in Hungary, in 673 for Iceland, and 847 in Spain. Thus, the total effective sample for the analyses reported here is comprised of 3,971 respondents, and includes only those who were asked to assess the depression and schizophrenia vignettes.

Measures: Stigmatizing Attitudes

In the analysis presented here, our dependent variables were cross-national public endorsements of stigmatizing attitudes toward persons with mental illness across three venues important for recovery: the community, the workplace, and the family. Each dimension is captured by a single-item, coded such that higher scores on each item indicated the endorsement of more stigmatizing sentiments. First, *community stigma* was tapped by the question, “A person like NAME has little or no hope of being accepted as a member of his/her community”, coded 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree. Second, *workplace stigma* was measured by the question, “If a person like NAME is qualified for a job, he or she should be hired like any other person”, also coded 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree. Third, *relational/family stigma* was indexed by the question, “How willing would you be to have NAME marry someone related to you?”, coded as 1=definitely willing, 2=probably willing, 3=probably unwilling, 4=definitely unwilling.

Results: What are the Levels of Stigma Across Five European Nations?

The presentation of our analysis proceeds in two steps. First, we examine the distribution on levels of the endorsement of the three stigmatizing attitudes for depression and schizophrenia

combined, and by condition, without regard to nation. Second, we examine the distributions for each condition for the five European nations individually.

Stigma in Europe

Table 2.1 displays the percentage of respondents residing in five European nations who endorsed stigmatizing attitudes relative to the hiring, community acceptance, and marriage of persons described with behaviors meeting DSM-IV criteria for depression and schizophrenia. Several notable patterns emerge from these data. First, without regard to nation, over half of respondents (56.4%) report being unwilling to have a person with depression or schizophrenia marry into his or her family, and more than a third (33.7%) believe that persons with depression or schizophrenia have little hope of being accepted in their respective communities. However, respondents report lower levels of rejection with respect to the workplace. Overall, only about 1 in 5 respondents (23.5%) reported that a qualified person with a mental health problem should not be hired.

The data in Table 2.1 also reveal a pattern reported in previous studies of public preferences for social distance from persons with mental health problems (see, for example, [63]) that suggest that the public clearly distinguishes between persons described with symptoms of depressive disorders or schizophrenia. Regardless of the interactional venue (i.e., community, work, or family [marriage]), across the board, respondents in our five European nations are significantly more likely to report rejection of a person with schizophrenia, relative to a person with depression.

Table 2.1 Distributions on Stigma Attitudes for Five European Nations

	Combined		Depression		Schizophrenia	
	%	N	%	N	%	N
Don't Hire, Even if Qualified						
Strongly Agree	5.0	183	4.3	80	5.8	103
Agree	18.5	674	15.2	285	21.9	389
Disagree	54.4	1,985	56.9	1,065	51.7	920
Strongly Disagree	22.2	810	23.6	442	20.7	368
N		3,652		1,872		1,780
Unlikely to Be Accepted in Community						
Strongly Agree	4.6	171	4.2	78	5.1	93
Agree	29.1	1,079	24.7	465	33.6	614
Disagree	47.6	1,769	48.7	325	46.6	852
Strongly Disagree	18.7	692	22.5	422	14.8	270
N		3,709		1,880		1,829
Willingness to Have Marry Into Family						
Definitely Unwilling	27.2	963	23.0	408	31.4	555
Probably Unwilling	29.2	1,032	26.4	469	31.9	563
Probably Willing	31.0	1,096	35.4	628	26.5	468
Definitely Willing	12.7	448	15.2	269	10.1	179
N		3,539		1,774		1,765

Stigma Differences Across Europe

Table 2.2 reports the percentage of respondents, by country, who endorsed stigmatizing attitudes with regard to depression and schizophrenia for the same three items. For the most part these nation-specific estimates mirror the patterns observed in Table 2.1. Specifically, in each nation, regardless of the interactional venue (i.e., work, community, or family), respondents are more likely to prefer social distance from a person described as having symptoms of schizophrenia when compared to a person described as meeting criteria for depression. Also as before, regardless of nation or disorder type, the lowest levels of rejection are observed in the workplace setting, with higher levels of rejection reported in community and family settings.

However, the findings suggest that there are distinctions that can be drawn between the proportions of respondents in the five nations who are likely to endorse stigmatizing responses. Indeed, for each social venue and both disorder types, the proportion of stigmatizing attitudes differs significantly across the five nations. On the one hand, the highest levels of rejection are reported by respondents from the two Eastern European nations (i.e., Bulgaria and Hungary) and Spain. On the other hand, respondents in both Germany and Iceland report substantially lower levels of rejection. More specifically, almost one third to one half of the respondents in Bulgaria, Hungary and Spain believe that the individual described with schizophrenia should not be hired, compared to only 10 to 20 percent of those in Iceland and Germany, respectively. A similar pattern, although with fewer individuals

Table 2.2 Percentage of Respondents Endorsing Stigmatizing Attitudes With Regard To Depression and Schizophrenia Across Five European Nations Arranged by Level of Development (GDP per capita, low to high)

	Depression %	Schizophrenia %
Don't Hire, Even if Qualified		
(Strongly Agree/Agree, combined)		
Bulgaria	17.6	32.5
Hungary	26.1	31.7
Spain	29.8	43.1
Germany	13.1	20.6
Iceland	8.1	10.0
Unlikely to Be Accepted in Community		
(Strongly Agree/Agree, combined)		
Bulgaria	35.2	49.0
Hungary	26.3	36.1
Spain	30.4	40.2
Germany	34.1	45.6
Iceland	17.6	23.0
Willingness to Have Marry Into Family		
(Definitely/Probably Unwilling, combined)		
Bulgaria	56.4	73.7
Hungary	61.6	70.6
Spain	47.2	67.4
Germany	46.8	54.9
Iceland	38.0	50.2

expressing rejection, is reported for those who received the depression vignette. The percentage endorsing social distance is generally higher for acceptance in the community and even more so for marriage; but even here, one country stands out. In Spain, about 43% of respondents indicated an unwillingness to see individuals described with schizophrenia to be hired; about 30% express similar concerns about those described with depression. So, while the pattern is not exactly the same across all venues and across the disorders, there are clear national differences, with Icelanders always anchoring the bottom. Here, the lowest proportion of respondents endorses stigmatizing responses.

Discussion: Preliminary Insights and Next Steps

As Link and Phelan [85] point out, stigma matters for public health because it is a social cause of disease which compromises a person's ability to cope with mental illness, produces stress, and exposes them to other disease-producing conditions. The disadvantages with regard to power, prestige and social connections translate into the possibility that individuals with mental illness will have restricted life styles and life chances, including but not limited to social relationships, community living options, and citizenship rights [86].

The SGC-MHS was designed to follow up on insights of the WHO studies which suggested that a lever for stigma reduction might be found in understanding whether there are places across the globe offering more auspicious settings for recovery from the challenges of mental illness. Are there cultures which can be characterized as less stigmatizing, that is, offering more community inclusion and less rejection across critical arenas of life? The early picture that we report here from five European countries offers both encouragement for cross-national differences but greater complexity than suggested by the original WHO studies. That is, we do find overarching differences, both by disorder and by country. In general, respondents report more stigma regarding schizophrenia than for depression.

Perhaps more surprising is the way the different European nations "stack up." There are clear and significant national differences. But, these differences do not suggest that same direction for level of development that the larger WHO studies suggested. Within Europe, in post-communist countries which have a lower level of development based on GDP per capita, more respondents perceive rejection for mental illness, while those in the more economically advanced nations, particularly Iceland, report less rejection. These results point to the need for a consideration of many other potential conditions that shape stigma; for example, the tradition of social welfare in democracies.

As a first step, our analysis is intriguing but raises more questions than answers for understanding the cross-national dimensions of stigma. Considerations that are aligned along an illness career model will shape our analyses of whether the assessment and recognition of mental illness differs cross-nationally and whether labeling has differential effects on rejection. By having asked about issues from onset to recovery, we will have the possibility of seeing where and how nations differ. Following up on these initial findings will likely present an even more complex picture, as more nations and more issues such as recognition are added. But even these first analyses suggest that unscrambling the patterns in these data may help tailor stigma reduction efforts.

The public health ramifications of not knowing the underlying workings of stigma are costly. According to the U.S. Surgeon General, stigma is the "most formidable obstacle to future progress in the arena of mental illness and health" [87, p. 3]. Similarly, the WHO and the World Psychiatric Association mark public stigma and discrimination as *the* critical

barriers to the appropriate care and inclusion of persons with mental illness in society, and as the “chief nemesis” to improving and assuring the quality of life for persons with severe mental illness [79, 88]. The existing gaps in scientific knowledge leave little room to estimate the malleability of stigma by marking its cross-national variation and to offer science-based approaches that attempt to change the larger culture and climate of communities. The SGC-MHS attempts to address the important goal of understanding the etiology of stigma to assist in the development of “evidence-based interventions to prevent or mitigate stigma’s negative effect on the health of individuals, families and societies worldwide” ([89]; <http://www.nih.gov/news/pr/aug2002/fic-28.htm>). Along with the WHO efforts and those of the Institute of Medicine, we agree that research on both the individual and collective properties associated with health communities is expected to provide opportunities for prevention and/or intervention at lower cost than traditional individual level strategies [90, p. 91].

References

1. U.S. Department of Health & Human Services (2000) *Healthy People 2010: Understanding and Improving Health*. 2nd ed. Washington, DC: U.S. Government Printing Office.
2. Murray, C.J.L. and Lopez, A.D. (eds) (1996) *Global Burden of Disease: a Comprehensive Assessment of Mortality and Disability from Diseases, Injuries, and Risk Factors 4 in 1990 and Projected to 2020*. Harvard School of Public Health, Cambridge, MA
3. Rutz, W (2001). Mental health in Europe: problems, advances and challenges. *Acta Psychiatrica Scandinavica Supplementum* (410), 15–20.
4. Hopper, K. and Wanderling, J. (2000) Revisiting the developed versus developing distinction in course and outcome in schizophrenia: results from ISOs, the WHO Collaborative Follow-up Project. International Study of Schizophrenia. *Schizophrenia Bulletin* **26**(4), 835–846.
5. Kulhara, P. and Chakrabarti, S. (2001) Culture and schizophrenia and other psychotic disorders. *Psychiatric Clinics of North America* **24**(3), 449–464.
6. Sartorius, N., Gulbinat, W., Harrison, G., Laska, E. and Siegel, C. (1996) Long-term follow-up of schizophrenia in 16 countries. A description of the international study of schizophrenia conducted by the World Health Organization. *Social Psychiatry and Psychiatric Epidemiology* **31**(5), 249–258.
7. Sartorius, N., Jablensky, A. and Shapiro, R. (1978) Cross-cultural differences in the short-term prognosis of schizophrenic psychoses. *Schizophrenia Bulletin* **4**(1), 102–113.
8. Remschmidt, H., Nurcombe, B., Belfer, M.L., Sartorius, N. and Okasha, A. (2007) *The Mental Health of Children and Adolescents: An Area of Global Neglect*. Chichester: Wiley.
9. Pescosolido, B.A. (1991) Illness careers and network ties: a conceptual model of utilization and compliance. In G.L. Albrecht and J.A. Levy (eds) *Advances in Medical Sociology* (pp. 161–184). Greenwich, CT: JAI Press.
10. Pescosolido, B.A. (2006) Of pride and prejudice: the role of sociology and social networks in integrating the health sciences. *Journal of Health and Social Behavior* **47**(September), 189–208.
11. Caracci, G. and Mezzich, J.E. (2001) Culture and urban mental health. *Psychiatric Clinics of North America* **24**(3), 581–593.
12. Ng, C.H. (1997) The stigma of mental illness in Asian cultures. *Australian and New Zealand Journal of Psychology* **31**(3), 382–390.
13. Slu, T. (1989) Short-term prognosis of schizophrenia in developed and developing countries. WHO international study program. *Zhurnal Nevropatologii I Psikhiatrii Imeni S - S - Korsakova* **89**(5), 66–72.
14. Crisp, A.H., Gelder, M.G., Rix, S., Meltzer, H.I. and Rowlands, O.J. (2000) Stigmatization of people with mental illness. *British Journal of Psychiatry* **177**(1), 4–7.
15. Fabrega, H., Jr. (1991) The culture and history of psychiatric stigma in early modern and modern western societies: a review of recent literature. *Comprehensive Psychiatry* **32**(2), 97–119.

16. Pescosolido, B.A., Martin, J.K., Link, B.G., Kikuzawa, S., Burgos, G. and Swindle, R. (2000) Americans' views of mental illness and health at century's end: continuity and change. Public report on the MacArthur Mental Health Module, 1996 General Social Survey. Bloomington, IN: Indiana Consortium for Mental Health Services Research.
17. Stuart, H. and Arboleda-Flórez, J. (2001) Community attitudes toward persons with schizophrenia. *Canadian Journal of Psychiatry* **46**(3), 245–252.
18. Wahl, O.F. (1999) Mental health consumers' experience of stigma. *Schizophrenia Bulletin* **25**(3), 467–478.
19. National Research Council and Institute of Medicine (2000) *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Committee on Integrating the Science of Early Childhood Development. Jack P. Shonkoff and Deborah A. Phillips, eds. Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, D.C.: National Academy Press.
20. Sartorius, N. (1997) Fighting schizophrenia and its stigma. A new World Psychiatric Association educational programme. *British Journal of Psychiatry* **170**(4), 297.
21. Townsend, J.M. (1975). Cultural conceptions, mental disorders, and social roles: a comparison of Germany and America. *American Sociological Review* **40**(6), 739–752.
22. Crandall, C.S. (2000) Ideology and lay theories of stigma: the justification of stigmatization. In T.F. Heatherton, R.E. Kleck, M.R. Hebl and J.G. Hull (eds), *The Social Psychology of Stigma* (pp. 126–152). New York: Guilford Press.
23. Crocker, J., Major, B. and Steele, C.M. (1998). Social stigma. In D. Gilbert, S.T. Fiske and G. Lindzey (eds), *The Handbook of Social Psychology* (pp. 504–553). New York: McGraw-Hill.
24. Dovidio, J.F., Major, B. and Crocker, J. (2000) *The Social Psychology of Stigma*. New York: Guilford Press.
25. Ware, N.C., Hopper, K., Tugent, T., Dickey, B. and Fisher, D. (2007) Connectedness and citizenship: redefining social integration. *Psychiatric Services* **58**(4), 469–474.
26. Farnham, C.R., Zippel, A.M., Tyrell, W. and Chittinanda, P. (1999) Health status risk factors of people with severe and persistent mental illness. *Journal of Psychosocial Nursing and Mental Health Services* **37**, 16–21.
27. Harding, C.M., Brooks, G.W., Ashikaga, T., Strauss, J.S. and Breier, A. (1987) The Vermont longitudinal study of persons with severe mental illness, II: Long-term outcome of subjects who retrospectively met *DSM-III* criteria for schizophrenia. *American Journal of Psychiatry* **144**(6), 727–735.
28. Goffman, E. (1963) *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, NJ: Prentice-Hall.
29. Markowitz, F.E. (1998) The effects of stigma on the psychological well-being and life satisfaction of persons with mental illness. *Journal of Health and Social Behavior* **39**(4), 335–347.
30. Link, B.G., Struening, E.L., Rahav, M., Phelan, J.C. and Nuttbrick, L. (1997) On stigma and its consequences: evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse. *Journal of Health and Social Behavior* **38**(2), 177–190.
31. Katsching, H. (2000) Schizophrenia and the quality of life. *Acta Psychiatrica Scandinavica* **102** (Suppl.), 33–37.
32. Mechanic, D., McAlpine, D., Rosenfield, S. and Davis, D. (1994) Effects of illness attribution and depression on the quality of life among persons with serious mental illness. *Social Science and Medicine* **39**(2), 155–164.
33. Wright, E.R., Gronfein, W.P. and Owens, T.J. (2000) Deinstitutionalization, social rejection, and the self-esteem of former mental patients. *Journal of Health and Social Behavior* **41**(1), 68–90.
34. Myers, J.K. and Bean, L.L. (1968) *Decade Later*. New York: John Wiley & Sons.
35. Markowitz, F.E. (2001) Modeling processes in recovery from mental illness: relationships between symptoms, life satisfaction, and self-concept. *Journal of Health and Social Behavior* **42**(1), 64–79.
36. Burton, V.S.J. (1990) The consequences of official labels: a research note on rights lost by the mentally ill, mentally incompetent, and convicted felons. *Community Mental Health Journal* **26**(3), 267–276.
37. Bailey, S.R. (1998) An exploration of critical care nurses' and doctors' attitudes towards psychiatric patients. *Australian Journal of Advanced Nursing* **15**, 8–14.

38. Scholsberg, A. (1993) Psychiatric stigma and mental health professionals (stigmatizers and destigmatizers). *Medicine and Law* **12**, 409–416.
39. Mak, K.Y. and Gow, L. (1991) The living conditions of psychiatric patients discharged from half-way houses in Hong Kong. *International Journal of Social Psychiatry* **37**(2), 107–112.
40. Chernomas, W.M., Clarke, D.E. and Chisholm, F.A. (2000) Perspectives of women living with schizophrenia. *Psychiatric Services* **51**(12), 1517–1521.
41. Lai, Y.M., Hong, C. and Chee, C.Y. (2001) Stigma and mental illness. *Singapore Medical Journal* **42**(3), 111–114.
42. Ben Noun, L. (1996) Characterization of patients refusing professional psychiatric treatment in a primary care clinic. *Israel Journal of Psychiatry* **33**, 167–174.
43. Fuller, J., Edwards, J., Procter, N. and Moss, J. (2000) How definition of mental health problems can influence help-seeking in rural and remote communities. *Australian Journal of Rural Health* **8**(3), 148–153.
44. Ohaeri, J.U. (2001) Caregiver burden and psychotic patients' perception of social support in a Nigerian setting. *Social Psychiatry and Psychiatric Epidemiology* **36**(2), 86–93.
45. Star, S.A. (1952) What the public thinks about mental health and mental illness. National Association for Mental Health.
46. Star, S.A. (1955) The public's ideas about mental illness. National Opinion Research Center, Chicago, IL.
47. Cumming, E. and Cumming, J. (1957) *Closed Ranks: An Experiment in Mental Health Education*. Cambridge, MA: Harvard University Press.
48. Gurin, G., Veroff, J. and Feld, S. (1957) Americans view their mental health, 1957 [computer file]. Conducted by University of Michigan, Institute for Social Research, social science archive. ICPSR ed. Ann Arbor, MI: Inter-university consortium for political and social research [producer and distributor], 1975.
49. Rabkin, J. (1974). Public attitudes toward mental illness: a review of the literature. *Schizophrenia Bulletin* **10** (Fall), 9–33.
50. Armstrong, B. (1976) Preparing the community for the patient's return. *Hospital and Community Psychiatry* **27**, 349–356.
51. Roman, P.M. and Floyd, H.H. (1981) Social acceptance of psychiatric illness and psychiatric treatment. *Social Psychiatry* **16**(1), 21–29.
52. Link, B.G., Yang, L., Phelan, J.C. and Collins, P. (2004) Measuring mental illness stigma. *Schizophrenia Bulletin* **30**(3), 511–541.
53. Baxter, W.E. (1994) American psychiatry celebrates 150 years of caring. *Psychiatric Clinics of North America* **17**(3), 683–693.
54. Dain, N. (1994) Reflections on antipsychiatry and stigma in the history of American psychiatry. *Hospital and Community Psychiatry* **45**(10), 1010–1014.
55. Hyman, S.E. (2000) The millennium of mind, brain and behavior. *Archives of General Psychiatry* **57**(1), 88–89.
56. Pang, J.J. (1985) Partial hospitalization: an alternative to inpatient care. *Psychiatric Clinics of North America* **8**, 587–593.
57. Rose, R. (1988) Schizophrenia, civil liberties and the law. *Schizophrenia Bulletin* **14**(1), 1–15.
58. Swan, J. (1999) Wearing two hats. Consumer and provider. *Journal of Psychosocial Nursing and Mental Health Services* **37**(7), 20–24.
59. Phelan, J.C., Link, B.G., Stueve, A. and Pescosolido, B.A. (2000) Public conceptions of mental illness in 1950 and 1996: what is mental illness and is it to be feared? *Journal of Health and Social Behavior* **41**(2), 188–207.
60. McKeon, P. and Carrick, S. (1991). Public attitudes to depression: a national survey. *Irish Journal of Psychological Medicine* **8**, 116–121.
61. Link, B.G., Phelan, J.C., Bresnahan, M., Stueve, A. and Pescosolido, B.A. (1999) Public conceptions of mental illness: Labels, causes, dangerousness and social distance. *American Journal of Public Health* **89**(9), 1328–1333.
62. Swindle, R., Heller, K., Pescosolido, B.A. and Kikuzawa, S. (2000) Responses to nervous breakdowns in America over a 40-year period: mental health policy implications. *American Psychologist* **55**(7), 740–749.

63. Martin, J.K., Pescosolido, B.A. and Tuch, S.A. (2000). Of fear and loathing: the role of disturbing behavior, labels and causal attributions in shaping public attitudes toward persons with mental illness. *Journal of Health and Social Behavior* **41**(2), 208–233.
64. Pescosolido, B.A., Monahan, J., Link, B.G., Stueve, A. and Kikuzawa, S. (1999) The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *American Journal of Public Health* **89**(9), 1339–1345.
65. Chou, K.L. and Mak, K.-Y. (1998). Attitudes to mental patients among Hong Kong Chinese: a trend study over two years. *International Journal of Social Psychiatry* **44**(3), 215–224.
66. Brockman, J. and D'Arcy, C. (1978) Correlates of attitudinal social distance toward the mentally ill: a review and resurvey. *Social Psychiatry* **13**(1), 69–77.
67. Lyketos, G., Mouyas, A., Malliori, M. et al. (1985) Opinion of public and patients about mental illness and psychiatric care in Greece. *British Journal of Clinical Social Psychology* **3**, 59–66.
68. Paykel, E.S., Hart, D. and Priest, R.G. (1998) Changes in public attitudes to depression during the Defeat Depression campaign. *British Journal of Psychiatry* **173**(6), 519–522.
69. Hopper, K., Harrison, G. and Wanderling, J. (2007) An overview of course and outcome in ISoS. In K. Hopper, G. Harrison, A. Janca and N. Sartorius (eds), *Recovery from Schizophrenia: An International Perspective: A Report from the WHO Collaborative Project, the International Study of Schizophrenia* (pp. 23–38). New York: Oxford University Press.
70. Lin, K.M. and Kleinman, A.M. (1988) Psychopathology and clinical course of schizophrenia: a cross-cultural perspective. *Schizophrenia Bulletin* **14**(4), 555–567.
71. DiMaggio, P.J. (1997) Culture and cognition. *Annual Review of Sociology* **23**, 263–287.
72. Swidler, A. (2001) *Talk of Love: How Culture Matters*. Chicago: University of Chicago Press.
73. Pescosolido, B.A., Brooks-Gardner, C. and Lubell, K.M. (1998). How people get into mental health services: stories of choice, coercion and 'muddling through' from 'first-timers'. *Social Science and Medicine* **46**(2), 275–286.
74. Pescosolido, B.A., Wright, E.R., Alegria, M. and Vera, M. (1998) Social networks and patterns of use among the poor with mental health problems in Puerto Rico. *Medical Care* **36**(7), 1057–1072.
75. Neuberger, S.L., Smith, D.M. and Asher, T. (2000) Why people stigmatize: toward a biocultural framework. In T.F. Heatherton, R.E. Kleck, M.R. Hebl and J.G. Hull (eds) *The Social Psychology of Stigma* (pp. 31–61). New York: Guilford Press.
76. Benedict, R. (1934) Anthropology and the abnormal. *Journal of General Psychiatry*, **10**(1), 59–80.
77. Lefley, H.P. (1990) Culture and chronic mental illness. *Hospital and Community Psychiatry* **41**(3), 277–286.
78. Sartorius, N. (1998) Stigma: what can psychiatrists do about it? *The Lancet* **352**(9133), 1058–1059.
79. World Health Organization (2005) *Mental Health Atlas*. Geneva: World Health Organization.
80. Inglehart, R. and Baker, W. (2000) Modernization, globalization, and the persistence of tradition: empirical evidence from 65 societies. *American Sociological Review* **65**(1), 19–55.
81. Inglehart, R. (1997) *Modernization and Postmodernization: Cultural, Economic and Political Change in 43 Societies*. Princeton, NJ: Princeton University Press.
82. Thakker, J. and Ward, T. (1998) Culture and classification: the cross-cultural application of the DSM-IV. *Clinical Psychology Review* **18**(5), 501–529.
83. Jenkins, J.H. (1988) Ethnopsychiatric interpretations of schizophrenic illness: the problem of nervios within Mexican-American families. *Culture, Medicine and Psychiatry* **12**(3), 301–329.
84. Guarnaccia, P.J., Rivera, M., Franco, F. and Neighbors, C. (1996) The experiences of ataques de nervios: towards an anthropology of emotions in Puerto Rico. *Culture, Medicine and Psychiatry* **20**(3), 343–367.
85. Link, B.G. and Phelan, J.C. (2001). Conceptualizing stigma. *Annual Review of Sociology* **27**, 363–385.
86. Failer, J.L. (2002) *Who Qualifies for Rights? Homelessness, Mental Illness, and Civil Commitment*. Ithaca, NY: Cornell University Press.
87. U.S. Department of Health and Human Services (1999) *Mental Health: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

88. Sartorius, N. and Schulze, H. (2005) *Reducing the Stigma of Mental Illness: A Report from a Global Association*. New York: Cambridge University Press.
89. Keusch, G.T. (2002) Fogarty International Center announces new research program in stigma and global health. National Institutes of Health (<http://www.nih.gov/news/pr/aug2002/fic-28.htm>).
90. Singer, B. and Ryff, C. (2001) *New Horizons in Health: an Integrative Approach*. Washington DC: National Academy Press.