Perceived Stigma and Mental Health Care Seeking

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Objective: **There is limited empirical evidence on the extent to which perceived public stigma prevents individuals from using mental health services, despite substantial recent policy interest in this issue. This study investigated associations between perceived public stigma and mental health care seeking.** _Methods:_ **This study used cross-sectional survey data from a representative sample of undergraduate and graduate students (N=2,782) at one university. A five-item scale was used to assess perceived public stigma toward mental health service use. Perceived need for help in the past 12 months and current presence of depressive and anxiety disorders were also assessed.** _Results:_ **Perceived stigma was higher among males, older students, Asian and Pacific Islanders, international students, students with lower socioeconomic status backgrounds, and students with current mental health problems. Perceived stigma was also higher among those without any family members or friends who had used mental health services and among those who believed that therapy or medication is not very helpful. Perceived stigma was negatively associated with the likelihood of perceiving a need for mental health services, but only among younger students. Among those with probable depressive or anxiety disorders, there was no evidence that perceived stigma was associated with service use.** _Conclusions:_ **These results suggest that, at least in this population, perceived stigma may not be as important a barrier to mental health care as the mental health policy discourse currently assumes.** (**_Psychiatric Services_ 59:392–399, 2008**)

A major goal of mental health policy in the United States is to reduce barriers to service utilization. This policy focus is motivated by research documenting that most mental disorders go untreated or are treated only after extensive delays (1) and that effective treatments exist for most of these disorders (2). Researchers have identified a number of barriers to receiving mental health care, including financial, knowledge-related, and attitudinal barriers (3). Improving our understanding of the effects of reducing these barriers on utilization is important to inform mental health policy.

The authors of prominent reports identify stigma as a key barrier to mental health care. In 1999 the U.S. Surgeon General concluded, "For our nation to reduce the burden of mental illness, to improve access to care . . . stigma must no longer be tolerated" (2). More recently, the President's New Freedom Commission made stigma reduction its first major policy recommendation (4). Considerable recent research attention also attests to the intense interest in the relationship between stigma and mental health care (5,6).

The importance of stigma as a barrier to mental health care is also consistent with theoretical models of help seeking. These models typically conceptualize care seeking as a process that is influenced by social and cultural factors and one that involves symptom appraisal (for example, perceiving a need for mental health help) as well as acting on that appraisal (7,8). Empirical research supports these models, documenting that attitudes and beliefs about mental health and treatment have significant influences on help-seeking behavior, even after the severity of symptoms are controlled for (9). Recently, these models were extended to focus on perceived public stigma as a key social factor that affects care seeking (10). Public stigma is defined as the extent to which the general public negatively stereotypes and discriminates against a stigmatized group, and perceived public stigma is the extent to which an individual perceives the public to stereotype and discriminate against a stigmatized group (10).

Despite recent policy attention and a strong conceptual foundation, there is limited and mixed empirical research documenting how individuals' perceptions of stigmatizing attitudes by the public toward mental health care impede care seeking. Although prior research has found that perceptions of stigma reduce service use among patient samples (11,12), community-based samples are needed to assess associations between per-

ceptions of stigma and use of any services. One recent community-based study found that participants in a 2001–2003 survey (N=4,319) were less likely than those in a 1990–1992 survey (N=5,388) to report being embarrassed if friends were to learn that they used services (13). The author concluded that these changing attitudes reflect a trend of perceiving less public stigma, which may partially explain the contemporaneous increase in mental health services use. Another recent study found that negative attitudes toward help seeking (including the expectation of embarrassment) reduce the likelihood of perceiving a need for help and subsequently using mental health care (9). Other community-based studies found that between 24% and 29% of individuals with an apparent need for help reported being afraid of what others might think as a reason for not seeking care (14, 15). In contrast, another study that used a prospective longitudinal design and a community-based sample of Australians found no association between a single-item measure of perceived public stigma and mental health service use (16).

In the study presented here we build upon this important research literature in three respects. First, we measured perceived stigma by using a multiple-item scale, rather than a single item, because stigma is generally considered a multidimensional phenomenon (17,18). Second, we focused on respondents' perceived need for help, in addition to their service utilization, hypothesizing that stigma may have an impact on either stage. This focus highlights that care seeking is a multistage process and is justified by prior research that shows that perceiving a need for help is one of the most important predictors of service utilization (14,19). Third, we evaluated the association between perceived stigma and help seeking in a newly studied population, namely, university students. This population has special significance for mental health policy, given that 50% of mental disorders develop by age 18 (20) and that prior research has documented the extensive delays in seeking mental health

care after the initial onset of a disorder (1). Furthermore, this study improves on the lack of high-quality data related to help-seeking behavior and mental health among university students, particularly amid recent reports of poor mental health in this population (21,22).

We had three main research questions. First, what is the level of perceived public stigma regarding mental health service use in a population of undergraduate and graduate students, and does it vary by sociodemographic groups, mental health status, social contacts with mental health service users, or beliefs about mental health services? Second, to what extent is perceived public stigma associated with perceiving a need for help? We hypothesized that higher perceived public stigma is associated with a lower probability of perceiving a need for help. This would be the case if perceiving a need not only implies recognition of symptoms but also has the subjective meaning of accepting tacit membership in a stigmatized group. Third, to what extent is perceived public stigma associated with the probability of receiving mental health care? We hypothesized that higher perceived public stigma is associated with a lower probability of receiving mental health care. Students may avoid seeking care that would result in being formally labeled as having a mental disorder, thereby avoiding any potential status loss or discrimination from belonging to a stigmatized group.

Methods
Data
The data came from the Healthy Minds Study, a cross-sectional Internet-based survey administered in October 2005 to a randomly selected sample of undergraduate and graduate students at a large, Midwestern, public university. The survey yielded a sample of 2,782 students (55.4% completion rate) who completed all measures used in this analysis. Weights were constructed to adjust for survey nonresponse bias by using demographic and academic data from an administrative database for all 5,021 students recruited for the study, as well as measures of depres-

sion and mental health services use collected from a random sample of initial nonrespondents. More detailed information about the sample and nonresponse weighting methodology is available elsewhere (19). All participants completed an online informed consent form after reading a description of the study. The University of Michigan Health Sciences Institutional Review Board approved all aspects of the study.

Measures
The measure of perceived public stigma regarding mental health service use was adapted from the Stigma Scale for Receiving Psychological Help, a five-item scale that has been used in other recent research (23,24). The scale was adapted to pertain to stigma associated with receiving any treatment for emotional or mental health problems, broadly defined. The scale had good internal consistency within our sample (Cronbach's alpha of .74) and was created by summing the score (0–3) for each item, yielding a continuous variable ranging from 0, lowest perceived stigma, to 15, highest perceived stigma.

We measured perceived need for help by asking respondents, "In the past 12 months, did you think you needed help for emotional or mental health problems such as feeling sad, blue, anxious, or nervous?" Mental health services utilization was measured by asking respondents whether they took any psychotropic medications or used any therapy or counseling in the past 12 months. These items were taken from the Healthcare for Communities Study questionnaire (25). Depressive and anxiety disorders were measured with the Patient Health Questionnaire (PHQ), an instrument developed to screen for current major depression, other depression (including less severe depression, such as depression not otherwise specified or dysthymia), panic disorder, and generalized anxiety disorder (26). Other variables in our analyses—including perceived treatment effectiveness, social contacts with treatment users, and sociodemographic characteristics—are shown in the tables and described in more detail elsewhere (19).

Table 1

Description of 2,782 graduate and undergraduate university students who completed a survey on perceived public stigma and mental health care seeking

Characteristic	N	% (weighted)[a]
Sex		
Female	1,465	47.3
Male	1,317	52.7
Age		
18–22	1,247	50.5
23–25	602	18.3
26–30	611	20.4
≥31	322	10.8
Race or ethnicity		
White or Caucasian, non-Hispanic, and non-Arab	1,678	58.6
African American or black, and non-Hispanic	121	6.2
Hispanic or Latino	101	3.7
Asian or Pacific Islander	656	22.7
Other race or ethnicity	226	8.8
Type of student		
U.S. student	2,318	85.4
International student	464	14.6
Family's financial situation when growing up		
Well to do	408	14.8
Comfortable	1,504	54.8
Enough, not many extras	798	28.1
Poor, not enough to get by	68	2.3
Current depression or anxiety disorder (positive Patient Health Questionnaire screen)	475	14.5

[a] Percentages are weighted to reflect the full student population at this university.

Statistical analyses

To address the first research question, we used bivariate linear regression models to test for significant differences in perceived public stigma between sociodemographic groups and groups defined by mental health characteristics, social contacts with mental health service users, and beliefs about mental health services. To address the second research question, we used multivariate logistic regression models to assess the association between perceived public stigma and the odds of perceiving a need for services among those with probable depressive or anxiety disorders (positive PHQ screens). To address the third research question, we used multivariate logistic regression models to assess the association between perceived public stigma and the odds of using services among those with probable disorders and a perceived need for help. We also estimated these multivariate models after stratifying the sample by whether students were aged 18–22 or older than 22 (for the most part, undergraduates versus graduate students), because these groups may have very different characteristics and social contexts. All multivariate logistic regressions included as covariates gender, age group (where appropriate), race or ethnicity, U.S. versus international student, family's socioeconomic background, and depression severity (as measured by the raw PHQ score, which can range from 0 to 27). All analyses were conducted with Stata 9.0 and were weighted to adjust for nonresponse.

Results

Table 1 displays the demographic and mental health characteristics of the sample. Of note, 475 respondents (14.5%) screened positive for a disorder on the PHQ (depression or anxiety). Among those respondents, 302 (65%) perceived a need for help over the past 12 months, of whom 156 respondents (52%) also utilized mental health services in the past 12 months. Table 2 shows the frequencies of item response for the perceived stigma scale. The mean level of perceived stigma in the study population was 6.48±2.58, below the midpoint of the scale (range of 0–15).

The bivariate linear regression analyses displayed in Table 3 show that men perceived higher levels of stigma than women, older individuals perceived higher levels of stigma than younger individuals, Asian or Pacific Islanders and individuals in the "other race" category perceived higher levels of stigma than whites, and international students perceived higher levels of stigma than American students. There were also significant socioeconomic differences in perceived stigma, because those who reported coming from poor families had higher levels of perceived stigma than those who reported coming from more financially well-off families. Social contacts with service users and positive beliefs about treatment effectiveness were both significantly associated with lower perceived stigma. Having a probable depressive or anxiety disorder was significantly associated with higher perceived stigma.

As shown in Table 4, in the multivariate analysis of perceiving a need for help over the past 12 months among those who screened positive for a disorder on the PHQ, the odds ratio for perceived stigma was in the expected direction (OR=.94), but it was not statistically significant. Among the covariates, only being female and having a higher depression severity score significantly predicted perceiving a need for help, although Asians and Pacific Islanders were significantly less likely to perceive a need for help. After the sample was stratified by age, perceived stigma was associated with a reduced probability of perceiving a need for help among 18- to 22-year-olds (OR=.86, p=.008), but the finding was not significant among older students (OR= 1.03) (Table 4).

There was no relationship between perceived stigma and service use in the multivariate analysis (Table 5). This was still the case after stratifying by age. Only respondents with higher depression severity scores were significantly more likely to use services, whereas Asians and Pacific Islanders and international students were significantly less likely to use services.

Discussion

Among studies of the association between perceived stigma and mental

Table 2

Responses to items on the adapted version of Stigma Scale for Receiving Psychological Help among 2,782 graduate and undergraduate university students[a]

Item	Strongly disagree (0)		Disagree (1)		Agree (2)		Strongly agree (3)	
	N	%	N	%	N	%	N	%
1. Receiving treatment for emotional or mental problems carries social stigma	151	5.4	689	24.5	1,636	59.6	306	10.5
2. It is a sign of personal weakness or inadequacy to receive treatment for emotional or mental problems	996	35.5	1,232	44.4	480	17.4	74	2.7
3. People will see a person in a less favorable way if they come to know that he or she has received treatment for emotional or mental problems	187	6.9	970	35.1	1,438	51.6	187	6.5
4. It is advisable for a person to hide from people that he or she has been treated for emotional or mental problems	564	20.8	1,365	49.7	752	26.4	101	3.2
5. People tend to like less those who are receiving professional help for emotional or mental problems	391	14.4	1,601	57.7	723	25.6	67	2.3

[a] Percentages are weighted to reflect the full student population at this university.

health care seeking, this study is unique in its focus on university students, its use of a representative sample of students from a university (as opposed to a convenience or clinical sample), its investigation of perceived need (in addition to utilization), and its use of a multiple-item stigma measure. We found that perceived public stigma was negatively associated with the probability of perceiving a need for help among individuals aged 18–22, but this relationship did not hold for older students. We also found that, contrary to our expectations, perceived stigma was not significantly associated with utilization. This result is consistent with results from a study that found that perceptions of discrimination toward individuals with depression were not associated with subsequent use of mental health services in a community sample of Australian adults (16).

There are a variety of reasons why perceived stigma may have been associated with reduced perceived need among younger students but not among older students. Younger students are more likely to be experiencing symptoms of mental disorders for the first time. Thus they may be less likely to have already accepted a tacit label of having a mental disorder, or they may be more resistant to accepting the tacit label. An alternative ex-

planation may be that the older students in our sample were mainly graduate students, who are a unique population in terms of education level and other unobserved qualities that may modify the relationship between perceived public stigma and help-seeking behavior. Future research on more diverse populations will improve our understanding of how and why this relationship varies between groups.

We found moderate levels of perceived stigma toward mental health services overall. In comparison, data from the National Comorbidity Survey–Replication indicate that 35% of American adults reported that they would be embarrassed if friends were to know that they received professional help (13). Another study of college students that used a comparable scale found somewhat lower levels of perceived stigma than we did (mean score of 5.79 versus 6.48 on the Stigma Scale for Receiving Psychological Help) (23,24). However, this difference in perceived stigma could be explained by the study's use of a convenience sample of psychology students, in contrast to our random sample.

Levels of perceived stigma in our sample differed by gender, age, race or ethnicity, nationality, and socioeconomic background. These findings

may be useful for identifying groups to target for interventions to reduce stigma. Additionally, the finding that levels of perceived stigma varied by perceptions of the effectiveness of mental health treatment and by social contacts with mental health services users suggests that these factors may be important to address in stigma-related interventions.

This study has several limitations. First, we cannot infer causal relationships from this cross-sectional study, because of possible reverse causation and unobserved confounders. Furthermore, the interpretation of our results is complicated because we used a 12-month reference period for our measures of perceived need and service use, while using measures of current perceived stigma and current depression and anxiety. As such, our interpretation may mask heterogeneity within important subgroups. For instance, we assumed that students with a positive PHQ screen who reported service use in the past 12 months were those who recently entered needed treatment; we hypothesized that low levels of perceived public stigma contributed to their decision to seek care. However, this group may also include individuals who sought treatment that was unsuccessful in reducing their depressive symptoms. Such individu-

Table 3

Bivariate linear regression models of perceived public stigma among 2,782 graduate and undergraduate university students

Characteristic	Mean SSRPH score[a]	Coefficient	95% CI	t	df	p
Sex						
Female (reference)	6.18					
Male		.566	.37 to .77	5.57	2,781	<.001
Age						
18–22 (reference)	6.31					
23–25		.291	.02 to .56	2.09	2,781	.037
26–30		.352	.10 to .60	2.75	2,781	.006
≥31		.439	.13 to .75	2.77	2,781	.006
Race or ethnicity						
White or Caucasian, non-Hispanic, and non-Arab (reference)	6.31					
African American or black, and non-Hispanic		−.141	−.72 to .44	−.47	2,781	.636
Hispanic or Latino		.210	.26 to .69	.87	2,781	.385
Asian or Pacific Islander		.519	.28 to .76	4.26	2,781	<.001
Other race or ethnicity		.548	.14 to .95	2.64	2,781	.008
Type of student						
U.S. student (reference)	6.40					
International student		.561	.30 to .83	4.16	2,781	<.001
Family's financial situation when growing up						
Well to do (reference)	6.31					
Comfortable		.039	−.25 to .33	.26	2,777	.794
Enough, not many extras		.424	.09 to .75	2.51	2,777	.012
Poor, not enough to get by		1.430	.59 to 2.27	3.32	2,777	.001
Current mental health problem						
None (reference)	6.33					
Any		1.057	.77 to 1.34	7.35	2,778	<.001
Service use						
Family						
No family members use services (reference)	6.63					
Any family use services		−.291	−.49 to −.09	−2.81	2,769	.005
Friends						
No friends use services (reference)	6.99					
Any friends use services		−.708	−.95 to −.47	−5.84	2,776	<.001
Helpfulness of therapy						
Very helpful (reference)	5.62					
Quite helpful		.707	.45 to .97	5.31	2,775	<.001
A little helpful		1.487	1.22 to 1.76	10.82	2,775	<.001
Not at all helpful		2.204	1.41 to 3.00	5.42	2,775	<.001
Helpfulness of medication						
Very helpful (reference)	5.77					
Quite helpful		.549	.20 to .90	3.06	2,759	.002
A little helpful		.970	.62 to 1.32	5.46	2,759	<.001
Not at all helpful		1.165	.66 to 1.67	4.50	2,759	<.001

[a] Adapted version of the Stigma Scale for Receiving Psychological Help. Possible scores range from 0 to 15, with higher scores indicating a higher degree of perceived public stigma. The mean±SD score for the total sample was 6.48±2.58.

als may perceive more stigma after an unsuccessful treatment episode. Lumping these two subgroups together may explain our lack of association between stigma and service use. Future work using longitudinal data and more comprehensive measures of the timing of mental disorders and service use will address this limitation more effectively.

Second, although the multiple-item measure of perceived stigma toward mental health treatment is an im-provement over single-item measures, it does not specifically measure stigmatizing attitudes toward mental illness, nor does it assess structural stigma, which can impose macro-level barriers to care—for example, less generous insurance coverage for mental health services (17). Future research that evaluates other aspects of stigma will enhance the understanding of how stigma influences mental health care. Third, certain items in the measure of perceived stigma (items 2 and 4 on the Stigma Scale for Receiving Psychological Help) may assess respondents' own stigmatizing attitudes, to a certain extent, rather than purely measuring perceived public stigma. Our results, however, proved robust to sensitivity analyses (not shown) that excluded these items from the perceived stigma scale. Fourth, the measures of service utilization focused exclusively on mental health care that was delivered by a physician or other mental health professional, whereas

Table 4

Multivariate logistic regressions of perceiving a need for mental health services, among survey respondents with a probable depressive or anxiety disorder

Variable	Full population (N=464)				Ages 18–22 (N=240)				Ages 23+ (N=224)			
	OR	95% CI	t[a]	p	OR	95% CI	t[b]	p	OR	95% CI	t[c]	p
Perceived stigma	.94	.87–1.02	−1.56	.119	.86	.77–.96	−2.7	.008	1.03	.92–1.16	.57	.570
Age												
18–22	1.00				—				—			
23–25	.75	.44–1.27	−1.09	.278	—				—			
26–30	1.48	.80–2.74	1.25	.211	—				2.22	1.09–4.50	2.21	.028
≥31	1.54	.64–3.70	.96	.337	—				2.38	.85–6.66	1.65	.100
Sex												
Male	1.00				1.00				1.00			
Female	1.77	1.14–2.73	2.57	.010	1.20	.65–2.22	.58	.561	3.02	1.55–5.88	3.26	.001
Race or ethnicity												
White or Caucasian, non-Hispanic, and non-Arab	1.00				1.00				1.00			
African American or black, and non-Hispanic	.61	.25–1.50	−1.08	.279	.39	.13–1.13	−1.74	.083	.97	.18–5.16	−.03	.975
Hispanic or Latino	1.75	.44–6.87	.80	.423	.50	.10–2.42	−.86	.389	—[d]			
Asian or Pacific Islander	.39	.21–.75	−2.84	.005	.44	.16–1.20	−1.58	.114	.30	.12–.74	−2.61	.010
Other race or ethnicity	1.19	.53–2.66	.41	.679	1.57	.52–4.70	.81	.421	.92	.32–2.66	−.16	.873
Type of student												
U.S. student	1.00				1.00				1.00			
International student	.95	.45–2.00	−.15	.885	.84	.20–3.50	−.24	.813	1.19	.46–3.03	.36	.719
Raw depression score	1.15	1.09–1.21	5.08	<.001	1.18	1.09–1.29	3.87	<.001	1.12	1.05–1.20	3.36	.001
Family's financial situation when growing up												
Well to do	1.00				1.00				1.00			
Comfortable	.83	.42–1.66	−.52	.601	.95	.39–2.27	−.12	.901	.65	.23–1.83	−.82	.413
Enough, not many extras	.59	.28–1.23	−1.40	.161	.75	.29–1.99	−.57	.567	.43	14–1.27	−1.54	.125
Poor, not enough to get by	.37	.10–1.43	−1.45	.148	.17	.02–1.80	−1.47	.142	.38	.07–2.23	−1.07	.284

[a] df=463
[b] df=239
[c] df=223
[d] Dropped from model because of perfect prediction

our measure of perceived need for help did not explicitly distinguish between professional and informal sources of help. Prior research has shown that utilization studies can be improved by also measuring informal sources of help for emotional or mental problems, such as clergy, family, or friends (27).

A final limitation relates to generalizability. This study population predominantly consists of young adults pursuing higher education and generally has higher socioeconomic status than the general population. Younger people and those with higher socioeconomic status may demonstrate a different relationship between stigma and mental health care than older groups or groups with lower socioeconomic status. A recent study found that perceived stigma was associated with increased treatment discontinuation among older patients, but not younger patients, with depression (11). We must compare our findings with those from similar studies of other populations before coming to broader conclusions about the relationship between stigma and mental health services use. Nevertheless, because half of young adults attend postsecondary education (28), this study population has some relevance for young adults in general.

Despite these limitations, this study has several strengths. Few studies of levels of perceived public stigma toward mental health services have used a nonclinical sample that is representative of its study population. In addition, although other researchers have focused on individuals' self-report of their own stigmatizing attitudes, individuals' perception of public stigma may be as important a barrier to mental health care (5). This study population is also important because there is a lack of studies that are representative of university students and because young adulthood is a sensitive period for the onset of mental disorders. Facilitating timely access to mental health care in this population may therefore yield substantial improvements in mental health status. Furthermore, this population is particularly interesting from a policy perspective. Financial factors, such as lack of insurance, are some of the most important barriers to seeking mental health care (29). However, there is nearly universal (94%) health insurance in our study population, and at least some mental health resources are available to all students at no charge through on-campus counseling and health services. Therefore, this research may provide hints about perceived stigma's role as a barrier to mental health services after financial barriers have been

Table 5

Multivariate logistic regressions of any mental health services use, among survey respondents with a probable depressive or anxiety disorder who perceived a need for help

Variable	Full population (N=302)				Ages 18–22 (N=160)				Ages 23+ (N=142)			
	OR	95% CI	t[a]	p	OR	95% CI	t[b]	p	OR	95% CI	t[c]	p
Perceived stigma	.99	.91–1.09	–.17	.863	.99	.87–1.12	–2.70	.874	.95	.83–1.10	–.68	.500
Age												
18–22	1.00				—		–.16		—			
23–25	.80	.45–1.75	–.34	.733	—				—			
26–30	1.97	.98–3.95	1.91	.057	—				2.05	.84–4.98	1.60	.113
≥31	1.51	.88–4.15	.81	.419	—				1.72	.57–5.24	.97	.334
Sex												
Male	1.00				1.00				1.00			
Female	1.19	.71–2.00	.67	.503	1.22	.58–2.57		.596	1.14	.53–2.47	.33	.741
Race or ethnicity												
White or Caucasian, non-Hispanic, and non-Arab	1.00				1.00		.53		1.00			
African American or black, and non-Hispanic	.64	.19–2.21	–.71	.479	.28	.03–2.35		.237	2.05	.24–14.75	.72	.474
Hispanic or Latino	.49	.09–2.59	–.84	.404	.62	.05–7.06	–1.19	.696	.47		–.69	.491
Asian or Pacific Islander	.37	.16–.85	–2.36	.019	.32	.10–.98	–.39	.047	.43	.06–4.00	–1.33	.184
Other race or ethnicity	1.34	.54–3.33	.64	.523	1.39	.36–5.44	–2.01	.633	1.32	.12–1.50	.43	.671
Type of student												
U.S. student	1.00				1.00		.48		1.00			
International student	.24	.07–.79	–2.36	.019	—[d]				.33	.36–4.79	–1.66	.099
Raw depression score	1.08	1.02–1.14	2.63	.009	1.09	1.00–1.19		.045	1.07	.99–1.15	1.69	.093
Family's financial situation when growing up												
Well to do	1.00				1.00		2.02		1.00			
Comfortable	.60	.29–1.24	–1.38	.168	.42	.15–1.13		.084	1.35	.43–4.24	.52	.607
Enough, not many extras	.51	.23–1.15	–1.63	.103	.48	.15–1.52	–1.74	.208	.71	.22–2.31	–.57	.568
Poor, not enough to get by	.87	.20–3.77	–.19	.847	.46	.02–12.60	–1.26	.644	1.53	.26–9.10	.47	.637

[a] df=301

[b] df=159

[c] df=141

[d] Dropped from model because of perfect prediction

reduced (as advocates of mental health parity desire).

Our findings raise the question of why there were no observed significant associations between perceived stigma and use of mental health care. One explanation is that many respondents had confidence that their service use would remain confidential and could thus avoid the consequences of being labeled as having a mental disorder. An alternative explanation is that our data represent a younger cohort for whom stigma may be a lesser barrier to care because of stigma reduction efforts and increased awareness about mental disorders and treatments during this group's developing years (1). Understanding more about why there is no strong association between perceived stigma and service utilization in this population is

a promising direction for future research and may lead to lessons for reducing stigma's role as a barrier to care in other populations.

Conclusions

Although this study is limited in its ability to make causal inferences, the results suggest that among university students, perceived stigma toward mental health treatment may not be as strong a barrier to using mental health services as the current policy discourse assumes. This is not to suggest that this study tells the whole story about the overall effects of stigma for people with mental disorders, nor does it suggest that stigma associated with mental illness or mental health services is unimportant for policy. Regardless of its effects on help-seeking behavior, stigma represents a form of discrimi-

nation and has been shown to have significant negative social, psychological, and clinical consequences for people with mental illness (10,17). However, this study implies that if the policy objective is to facilitate the use of mental health services among university students, other interventions that improve knowledge of and availability of services, which have been shown to be key barriers in university populations (19), may hold more promise than reducing the stigma associated with mental health service use.

References

1. Wang PS, Berglund P, Olfson M, et al: Failure and delay in initial treatment contact after first onset of mental disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry 62:603–613, 2005

2. Mental Health: A Report of the Surgeon General. Washington, DC, Department of Health and Human Services, US Public Health Service, 1999

3. Mechanic D: Removing barriers to care among persons with psychiatric symptoms. Health Affairs 21(3):137–147, 2002

4. Achieving the Promise: Transforming Mental Health Care in America. Pub no SMA-03-3832. Rockville, Md, Department of Health and Human Services, President's New Freedom Commission on Mental Health, 2003

5. Perlick DA: Special section on stigma as a barrier to recovery: introduction. Psychiatric Services 52:1613–1614, 2001

6. Pescosolido BA: Culture, children, and mental health treatment: special section on the National Stigma Study–Children. Psychiatric Services 58:611–612, 2007

7. Rosenstock IM: Why people use health services. Milbank Memorial Fund Quarterly 44:94–106, 1966

8. Mechanic D: Response factors in illness: the study of illness behavior. Social Psychiatry 1:11–20, 1966

9. Mojtabai R, Olfson M, Mechanic D: Perceived need and help-seeking in adults with mood, anxiety, or substance use disorders. Archives of General Psychiatry 59:77–84, 2002

10. Corrigan P: How stigma interferes with mental health care. American Psychologist 59:614–625, 2004

11. Sirey JA, Bruce ML, Alexopoulos GS, et al: Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. American Journal of Psychiatry 158:479–481, 2001

12. Sirey JA, Bruce ML, Alexopoulos GS, et al: Stigma as a barrier to recovery: perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence. Psychiatric Services 52:1615–1620, 2001

13. Mojtabai R: Americans' attitudes toward mental health treatment seeking: 1990–2003. Psychiatric Services 58:642–651, 2007

14. Kessler RC, Berglund PA, Bruce ML, et al: The prevalence and correlates of untreated serious mental illness. Health Services Research 36:987–1007, 2001

15. Wells JE, Robins LN, Bushnell JA, et al: Perceived barriers to care in St Louis (USA) and Christchurch (NZ): reasons for not seeking professional help for psychological distress. Social Psychiatry and Psychiatric Epidemiology 29:155–164, 1994

16. Jorm AF, Medway J, Christensen H, et al: Attitudes towards people with depression: effects on the public's help-seeking and outcome when experiencing common psychiatric symptoms. Australian and New Zealand Journal of Psychiatry 34:612–618, 2000

17. Link BG, Phelan JC: Conceptualizing stigma. Annual Review of Sociology 27:363–385, 2001

18. Link BG, Yang LH, Phelan JC, et al: Measuring mental illness stigma. Schizophrenia Bulletin 30:511–541, 2004

19. Eisenberg D, Golberstein E, Gollust SE: Help-seeking and access to mental health care in a university student population. Medical Care 45:594–560, 2007

20. Kessler R, Berglund P, Demler O, et al: Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry 62:593–602, 2005

21. Voelker R: Campus tragedy prompts closer look at mental health of college students. JAMA 297:2335–2337, 2007

22. Shuchman M: Falling through the cracks—Virginia Tech and the restructuring of college mental health services. New England Journal of Medicine 357:105–110, 2007

23. Pyne JM, Kuc EJ, Schroeder PJ, et al: Relationship between perceived stigma and depression severity. Journal of Nervous and Mental Disease 192:278–283, 2004

24. Komiya N, Good GE, Sherrod NB: Emotional openness as a predictor of college students' attitudes toward seeking psychological help. Journal of Counseling Psychology 47:138–143, 2000

25. Wells KB, Sturm R, Burnam A: National Survey of Alcohol, Drug, and Mental Health Problems [Healthcare for Communities], 2000–2001 [Codebook]. ICPSR version. Los Angeles, University of California, Los Angeles, Health Services Research Center, Ann Arbor, Mich, Inter-university Consortium for Political and Social Research, 2004

26. Spitzer RL, Kroenke K, Williams JBW, et al: Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. JAMA 282:1737–1744, 1999

27. Pescosolido BA, Wright ER, Alegria M, et al: Social networks and patterns of use among the poor with mental health problems in Puerto Rico. Medical Care 36:1057–1072, 1998

28. The Condition of Education. Washington, DC, National Center for Education Statistics, 2005

29. Mechanic D: Commentary: closing gaps in mental health care. Health Services Research 36:1009–1017, 2001