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Individual and Neighborhood Predictors of Mental Illness Stigma in New York State

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Abstract

While studies indicate that stigmatizing attitudes persist in the general public, individual and neighborhood level factors that are associated with increased likelihood of holding stigmatizing attitudes have been seldom studied. This study examined the demographic and neighborhood correlates of stigmatizing attitudes among community members in New York State. Data were drawn from the Pulse of New York State Survey, a random-digit dial survey of 806 New York State residents. Variables studied included demographic information, the Attitudes Toward Mental Illness scale, and neighborhood disadvantage at the zip code level (using data on community characteristics from the 2000 and 2010 Census). Higher levels of completed education predicted less stigmatizing attitudes. Higher levels of neighborhood disadvantage predicted more stigmatizing attitudes with the 2000 Census, and obtained marginal significance within the 2010 Census. Political affiliation demonstrated the strongest relationship, with more conservative ideology predicting more stigmatizing attitudes. Results highlight the need to consider political affiliation and neighborhood disadvantage as target areas when planning interventions for reducing mental illness stigma.

Keywords

Mental Health; Stigma of Mental Illness; Neighborhood Disadvantage; Attitudes toward Mental Illness

A growing body of research supports the persistence of stigmatizing attitudes towards mental illness in the general public across a variety of cultural contexts (Barke, Nyarko, & Klecha, 2011; Martin, Pescosolido, & Tuch, 2000; Reavley & Jorm, 2011; Sorsdahl & Stein, 2010). There is evidence that these attitudes are related to discriminatory behaviors (Cechnicki, Angermeyer, & Bielanska, 2011; Gonzalez-Torres, Oraa, Aristegui, Fernandez-Rivas, & Guimon, 2007; Lysaker et al., 2012; Switaj et al., 2012). In addition, there is new

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evidence that regional variations in community stigma are related to rates of internalized stigma among people with mental illness (Evans-Lacko et al., 2012). Both discrimination experiences and internalized stigma have been found to have negative implications for mental health recovery and functioning among people with mental illness (Livingston & Boyd, 2010; Wright et al., 2000; Yanos et al., 2010; Yanos et al., 2012).

Although the persistence of community stigma in the United States and elsewhere has been well documented, the individual-level and community characteristics that predict the likelihood of holding stigmatizing attitudes are less well understood. There have been suggestions that income and urbanicity are associated with stigma. In a random sample of 1,444 survey respondents in the United States, Martin, Pescosolido, and Tuch (2000) found those with higher income and urban residents were more likely to avoid or shun people living with mental illness. Using the same sample, Watson, Corrigan and Angell (2005) found conservative political ideology to be significantly related to attributing mental illness to bad character. Phelan and Link (2004) found minority ethnic/racial groups, lower family income, and less formal education to be significantly associated with the perception of people with mental illness as more dangerous. Political conservatism was also significantly related to perceived danger, but the relationship was non-linear with the greatest increase between those respondents describing themselves as “very liberal” and “somewhat liberal,” then steadily diminishing as responses became more conservative. Corrigan and Watson (2007) found female gender, education and European-American ethnicity to be associated with less stigma; WonPat-Borja et al. (2012) found Asian-Americans to have particularly elevated rates of stigma in contrast with European-Americans. Thus, research in the United States has suggested fairly consistently that liberal political ideology, higher education, and female gender tend to be associated with less stigmatizing attitudes, while there are suggestions that ethnic minorities and Asian-Americans in particular may be more prone to holding stigmatizing views. Several potential underlying mechanisms have been described in the literature regarding demographic correlates of stigmatizing attitudes. Some research has demonstrated that lower education levels are associated with less knowledge and familiarity with mental illness (Barczyk, 2015; Holman, 2015). Individuals living in areas with lower socioeconomic status may be more likely to associate mental illness with concerns about neighborhood crime and dangerousness (Corrigan & Watson, 2007; Roberts et al., 2008). Additional research has found underlying cultural norms and beliefs about mental illness to influence stigma (Abdullah & Brown, 2011).

Although the sociodemographic correlates of stigmatizing attitudes have been examined, neighborhood level factors have been seldom studied. Studies examining neighborhood level factors aim to account for the contribution of local socioeconomic characteristics, using census data and other sources, on individual level attitudes. Accounting for the impact of neighborhood level factors, the relationship with some individual-level variables (e.g., education or race/ethnicity) might actually be attributable to community-level factors that covary with neighborhood characteristics. There is some suggestion that neighborhood characteristics may be particularly relevant in so far as they mold the experience of people with mental illness seeking to integrate into community life. Research regarding the relationship between community characteristics and social integration of formerly institutionalized mental health patients found liberal, nontraditional (defined as including

group homes and boarding houses, households consisting of unrelated individuals, and a high proportion of women in general and in the labor force) neighborhoods to be the closest to the “ideal” accepting community, while conservative, middle-class neighborhoods were found to have a negative impact on social integration (Segal, Baumohl, & Moyles, 1980). Although it is plausible that the types of communities identified might also tend to demonstrate fewer stigmatizing attitudes about people with mental illness, this has yet to be empirically examined.

Our study examined demographic and neighborhood correlates of stigmatizing attitudes among community members in New York State. We hypothesized that respondents residing in communities with greater neighborhood disadvantage would endorse more stigmatizing attitudes about mental illness. We expected that the impact of neighborhood disadvantage would be independent of the impact of individual level variables supported by previous research (gender, education, political affiliation and ethnicity). Our goal was to identify the contribution of neighborhood characteristics to individual attitudes to help discover particular community areas that should be targeted when planning interventions for reducing mental illness stigma.

Method

Procedures

Institutional Review Board approval was obtained prior to data collection. Seven questions from the Attitudes Toward Mental Illness Scale regarding attitudes towards mental illness were inserted into the Pulse of New York State survey. The Stony Brook University Center for Survey Research conducted this survey by telephone between April 20, and June 16, 2011. Verbal informed consent was obtained prior to participation in the survey. A list-assisted method of random-digit-dialing (RDD) was used to obtain phone numbers in the sample. Within selected households, the individual with the nearest birthday who was also over 18 was selected to participate. Up to 8 contact attempts were made at each household phone number. In order to assure a representative sample, all households and individuals who were initially unwilling to participate in the survey were contacted again, and an attempt was made to persuade them to participate. The completion rate among all of those households reached in person by an interviewer for the survey was 41 percent.

Survey participants also reported the zip code of their primary residence, along with their primary political affiliation (liberal, moderate, or conservative). Data were then matched to neighborhood demographic characteristics from the 2000 and 2010 Census by zip code for each sample.

Participants

The Pulse of New York State survey included a telephone random sample of 806 adults 18 years or older residing in New York State. Inclusion criteria consisted of being a resident of New York State and being able to speak English well enough to complete the survey.

Measures

***Attitudes Toward Mental Illness Scale* (Kobau, Dilorio, Chapman, & Delvecchio, 2009)—**A total of 7 items were used from the scale and included in the Pulse of New York State survey. Items selected were those that loaded most highly on the two scale factors (Negative Stereotypes and Recovery and Outcomes) discussed by Kobau et al. Items included negative statements such as "I believe a person with mental illness is a danger to others" and "I believe a person with mental illness is unpredictable," as well as positive statements such as "I believe a person with mental illness can eventually recover." Items were rated on a Likert scale of 1-5, with higher scores overall indicating a lower amount of stigmatizing attitudes. Positively worded items were reverse-scored and mean imputation was used to account for missing values. A total of 195 missing values were imputed, which accounted for 0.04% of the total scale items across participants. The selected items demonstrated moderate internal consistency, with Cronbach's alpha = 0.68.

Neighborhood Disadvantage—For each participant, median income, percent unemployed, percent high school graduate, percent receiving public assistance, and percent below the poverty line were gathered from the 2000 and 2010 Census and converted into z-scores and combined to create the variable Neighborhood Disadvantage. Higher scores indicated higher levels of neighborhood disadvantage.

Analyses

Political affiliation and ethnicity were both dichotomized due to homogeneity of the sample. Political affiliation was coded so that 1 = Liberal and 2 = Non-Liberal, and ethnicity was coded so that 1 = White and 2 = African American. Participants' identified ethnicity was overwhelmingly White (80.9%) with the next largest group being African American (8.2%) and the other ethnic groups a combined 3.5% of the sample. We did not include this 3.5% in our dichotomization because we thought the group was small and heterogeneous enough to not be fully representative. Correlations were first explored between demographic characteristics, neighborhood disadvantage, and attitudes towards mental illness to examine their relationships. Multiple regression was then employed using SPSS V20 to investigate the relationship between demographic characteristics (political affiliation, income, race/ethnicity, and education) and neighborhood disadvantage in predicting attitudes towards mental illness. An alpha of <.05 was used to determine statistical significance.

Results

Descriptive characteristics for the sample can be found in Table 1. The sample age ranged from 18-93 years (M=54.7, *SD*=16.7). The sample was diverse in age and education, and ethnicity was comparatively homogenous, with 80% of the sample identifying as White. The sample included more female than male respondents. Roughly half the participants identified as having either liberal or conservative political affiliation. Table 2 describes endorsement of items from the Attitudes Toward Mental Illness Scale, with the distribution of attitudes similar to those found in Kobau et al. (2009).

We next examined bivariate relationships between demographic characteristics and attitudes toward mental illness. Family income, African American ethnicity, education level, non-liberal political affiliation and neighborhood disadvantage were found to be significantly correlated with greater endorsement of stigmatizing attitudes toward mental illness. Following correlation analyses, simultaneous regression was used to determine the extent to which the variables that showed significant bivariate associations with stigmatizing attitudes shared variance or uniquely predicted stigma in a multivariate model. We did not think it necessary to use multi-level analysis to assess the role of neighborhood disadvantage because of the small amount of participants within each zip code. Although multi-level analysis would be necessary if participants were only clustered within a few zip codes, within our sample participants were spread between a large number of zip codes (the largest amount of participants per zip code was 9 participants, or 1.1% of the total sample).

2000 Census findings

In a simultaneous regression including education level, gender, political affiliation, race/ethnicity and neighborhood disadvantage, the overall equation was found to significantly predict stigmatizing attitudes, $F(5) = 11.25$, $p < .001$, $r^2 = 0.085$. Education level ($\beta = 0.12$), neighborhood disadvantage ($\beta = -0.09$), and political affiliation ($\beta = -0.20$) were significant individual predictors of stigmatizing attitudes in the equation. Higher levels of completed education predicted less stigmatizing attitudes ($t = 2.93$, $p < .01$), and higher levels of neighborhood disadvantage predicted more stigmatizing attitudes ($t = -2.24$, $p < .05$). Political affiliation demonstrated the strongest relationship, with non-liberal ideology predicting more stigmatizing attitudes ($t = -5.00$, $p < .001$).

2010 Census findings

In simultaneous regression including education level, gender, political affiliation, race/ethnicity and neighborhood disadvantage, the overall equation was found to significantly predict stigmatizing attitudes, $F(5) = 11.09$, $p < .0001$, $r^2 = 0.083$. Political affiliation ($\beta = -0.27$) was the strongest significant individual predictor for stigmatizing attitudes, with non-liberal ideology predicting more stigmatizing attitudes ($t = -4.98$, $p < .0001$). Education was also a significant, but weaker, predictor of stigmatizing attitudes ($\beta=0.03$), with higher levels of completed education predicting less stigmatizing attitudes ($t = 2.97$, $p < .05$). Neighborhood disadvantage ($\beta=-0.01$) was a marginally significant predictor of stigmatizing attitudes, with higher level of disadvantage predicting higher levels of stigmatizing attitudes ($t = -1.96$, $p = 0.05$), and ethnicity ($\beta=-.155$) was also a marginally significant predictor with African American identification predicting more stigmatizing attitudes compared to White identification ($t = -1.91$, $p = .057$). Although neighborhood disadvantage demonstrated a weaker effect in simultaneous regression for the 2010 Census data, it remained significant at the bivariate level, $r(756) = 0.099$, $p < .001$.

Discussion

Findings from the Pulse survey supported that respondents residing in communities with greater neighborhood disadvantage endorsed more stigmatizing attitudes towards mental illness, using neighborhood characteristics taken from the 2000 Census. Of particular note is

the finding that neighborhood disadvantage was related to stigmatizing attitudes independent of the impact of individual level variables such as gender, education, political affiliation and ethnicity. This relationship was marginally significant using data from the 2010 Census. The contribution of neighborhood characteristics to individual attitudes towards mental illness highlights the need to consider disadvantaged neighborhoods as target areas when planning interventions for reducing mental illness stigma. The difference in strength of the relationship between neighborhood disadvantage and stigmatizing attitudes between the 2000 and 2010 Census suggests that the relationship between community characteristics and stigmatizing attitudes towards mental illness may change over time. Future research should examine the potential role of historical factors in the development and change of stigmatizing attitudes.

Non-liberal political affiliation demonstrated the strongest relationship to stigmatizing attitudes of the characteristics studied at the individual level. This is comparable with previous research supporting a relationship between conservative ideology and perceptions of dangerousness (Phelan & Link, 2004), and attributions of mental illness to bad character (Watson et al., 2005). When considered with Segal et al.'s (1980) findings, the independent contribution of neighborhood disadvantage and political conservatism to stigmatizing attitudes could hold important implications for the social and community reintegration of persons formerly institutionalized. This finding suggests that the combination of political conservatism with neighborhood disadvantage might create a particularly unsupportive environment for persons with mental illness. As supportive housing in New York State tends to be located in community areas with higher levels of neighborhood disadvantage, (which may or may not also be politically conservative), the interaction between community political affiliation (e.g., based on voting records) and neighborhood disadvantage in predicting community stigma needs to be studied further. The finding that higher education was related to lower levels of stigmatizing attitudes also corresponds to previous research linking education level with perceptions and attributions of mental illness (Phelan & Link, 2004; Corrigan & Watson, 2007).

The present study included several important limitations. The Pulse data were obtained using a telephone survey method. The response rate, though not inconsistent with what is typical for RDD surveys, still suggests that it may not be truly representative of the opinions of New York State residents. In addition, findings do not include the portion of residents who do not own a landline telephone service in New York State. It should also be noted that responses to the Attitudes Toward Mental Illness scale items might be biased by social desirability and therefore might not accurately reflect participant attitudes toward mental illness. Knowledge of socially desirable responses might, in fact, covary with education level, which might lead to the erroneous view that more educated persons have less stigmatizing views. Future research should investigate this possibility by including measures of social desirability into studies of public attitudes toward people with mental illness.

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Table 1

Sample Characteristics

	n	%
Gender		
Male	324	40.2
Female	482	59.8
Race/Ethnicity		
African American	66	8.2
White/European American	652	80.9
Asian American	1	0.1
Hispanic/Latino	16	2.0
Native American	12	1.5
Education Level		
High School or less	42	5.3
High School Diploma	133	16.7
Bachelor's Degree	200	25.1
Master's Degree	141	17.7
Professional/Doctorate	42	5.3
Political Affiliation		
Liberal	168	23.3
Non-Liberal	552	76.7

Table 2

Endorsement of Attitudes Toward Mental Illness Scale Items

	Moderately or Strongly Agree % (n)	Moderately or Strongly Disagree % (n)	Neither Agree nor Disagree % (n)
I believe a person with mental illness is a danger to others	23.3(179)	53.7(413)	23.0(177)
I believe a person with mental illness is unpredictable	56.6(439)	25.4(197)	17.9(139)
I believe a person with mental illness is hard to talk with	27.8(216)	54.2(421)	18.0(140)
I believe a person with mental illness would improve if given treatment and support	91.0(713)	3.3(26)	5.7(45)
I believe a person with mental illness can eventually recover	61.3(477)	19.8(154)	18.9(147)
I believe a person with mental illness can be as successful at work as others	69.0(535)	18.8(146)	12.1(94)
Treatment can help people with mental illness lead normal lives	86.9(686)	6.0(48)	7.0(55)

Note. Adapted from "Attitudes about mental illness and its treatment: Validation of a generic scale for public health surveillance of mental illness associated stigma," by R. Kobau et al., 2009, *Community Mental Health Journal, 46,* p. 164.