

Contact With Persons With Mental Illness and Willingness to Live Next Door to Them: Two Waves of a California Survey of Adults

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Objective: This study sought to extend findings from previous studies of the association between having had interpersonal contact with individuals with mental illness and the desire to avoid contact with them (i.e., social distance).

Methods: The authors used a longitudinal design with a representative sample of 1,057 California adults who completed a survey in 2013 (wave 1) and 2014 (wave 2). Bivariable and multivariable logistic regression analyses were used to test whether demographic characteristics and changes in past-year contact with individuals with mental illness affected perceptions of the dangerousness of individuals with mental illness and willingness to move next door to someone with mental illness.

Results: An increase in contact with someone with mental illness between the two waves was associated with a decrease in unwillingness to move nearby a person with mental

illness, even after the analysis accounted for contact and unwillingness at wave 1 (odds ratio [OR]=0.51, 95% confidence interval [CI]=0.31–0.84). Wave 1 beliefs that persons with mental illness are dangerous were associated with unwillingness to move nearby (OR=3.81, 95% CI=2.29–6.35) but changes in beliefs about dangerousness were not (OR=0.71, 95% CI=0.42–1.19).

Conclusions: Increased naturally occurring contact with individuals with mental illness appears to decrease unwillingness to move near a person with mental illness for as long as 1 year after the contact. Housing and services that aim to integrate individuals with mental illness into the community should consider strategies that include contact with individuals with mental illness to counter community opposition.

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Mental health research and practice have made significant strides in improving community-based housing and services for individuals with mental illness. However, progress has been limited by publicly held negative attitudes about individuals with mental illness—or mental illness stigma. According to a nationally representative survey, one in four U.S. adults are unwilling to have someone with a mental illness as a neighbor (1). Members of the public who object to living near individuals with mental illness may attempt to prevent the development of psychiatric housing and services because of “not in my backyard” (NIMBY) attitudes, contributing to service delays and shortages (2, 3). This desire to avoid contact, or for social distance, is a component of mental illness stigma (4).

A common stigmatizing belief associated with the desire for social distance from individuals with mental illness is that such individuals pose a danger to others (5–7). A systematic review of population-based research on mental illness stigma in the United States found that perceived

dangerousness was significantly associated with a desire for social distance, and this desire stemmed from the belief

HIGHLIGHTS

- This is the first population-based, longitudinal study to examine changes in perceptions of dangerousness and changes in contact with individuals with mental illness as predictors of the desire to avoid contact with such individuals.
- Respondents who reported increased contact with persons with mental illness in the past year were less likely to have negative attitudes about living near someone with mental illness.
- Initial beliefs that individuals with mental illness are dangerous predicted unwillingness to move nearby up to a year later, but changes in beliefs about dangerousness did not.

that individuals with mental illness are more prone to violent behaviors (6). Only three of the 36 studies in the review used longitudinal designs to examine mental illness stigma among members of the public as an outcome. The only study to examine change in perceptions of dangerousness over time did not survey the same individuals at each time point and did not account for whether respondents had ever had contact with someone with mental illness (8).

Personal contact has long been considered an effective strategy to reduce prejudice among diverse groups (9). When such contact introduces information that is inconsistent with a stereotype, it can force people to resolve the discrepancy by improving their attitudes toward the subject (10). In the case of mental illness stigma, contact may decrease public desire for social distance by disconfirming negative stereotypes, such as those about dangerousness (4, 11, 12). Interventions that actively facilitate this type of contact have been shown to effectively reduce mental illness stigma in the short term (13–16). However, studies of the association between contact and mental illness stigma have been criticized for pervasive methodological problems, including small and nonrepresentative samples and a lack of longitudinal evidence (10, 16, 17). In reviewing this literature, Couture and Penn (10) noted, “Another problem in this area is the retrospective nature of the data itself. It is impossible to know whether people who report previous contact held less stigmatizing views about people with SMI [serious mental illness] *before* contact occurred.”

On the other hand, prospective studies of contact have typically focused on short-term outcomes of a targeted intervention (10, 17, 18). This experience of contact, typically consisting of controlled exposure in a classroom, is likely qualitatively different from contact that occurs in the community. Although early work made several stipulations regarding the context and quality of contact, more recent research shows that mere exposure to members of an out-group may improve liking through increased familiarity (19).

In view of the limitations of the aforementioned studies, there is a need to understand the role of naturally occurring contact in stigma. Selection bias inherent in the intervention studies means that program participants are unlikely to be representative of the general public. With regard to medium- and long-term effects, a systematic review by Mehta and colleagues (18) concluded that contact was not more effective than other interventions in improving stigma and that more research is needed to understand the longer-term impacts of contact. In addition, a meta-analysis of randomized controlled trials of stigma-reduction programs concluded that there is insufficient evidence to draw conclusions about the effect that contact alone (i.e., in the absence of a targeted educational component) may have on stigma (17).

We built on previous population-based research by examining change in contact as a predictor of change in willingness to live next door to someone with mental illness. To

our knowledge, no representative study has investigated this relationship. Moreover, our findings contribute to the limited literature on the longer-term impacts of contact by assessing changes in contact and willingness up to a year later. Without longitudinal evidence from a representative sample, it is possible that social distance is reduced only immediately after contact or a targeted intervention. The current study also supplements the extant population-based research on perceptions of dangerousness by accounting for its influence in the relationship between changes in contact and willingness.

We drew on data collected from a representative sample of California adults who completed a longitudinal survey in 2013 and 2014. A repeated-measures design allowed us to investigate the relationships between changes in contact, changes in beliefs about dangerousness, and subsequent unwillingness to live near a person with mental illness, controlling for previous levels of contact and beliefs about dangerousness.

METHODS

Sampling Procedures

We conducted a secondary analysis of a sample of 1,285 respondents ages ≥ 18 years who completed both a 2013 (wave 1) and 2014 (wave 2) statewide telephone survey of California adults. The random-digit-dial sample consisted of both landline and cell phone numbers. Additional targeted sampling was conducted among African American and Asian American adults to provide statistically reliable estimates for these two groups. Respondents completed the survey in English, Spanish, Mandarin, Cantonese, Vietnamese, Khmer, or Hmong. Data were collected from respondents approximately 1 year apart. Wave 1 interviews were conducted in English and Spanish between May 10 and June 22, 2013, and the targeted oversample was interviewed between August 6 and September 6, 2013. Wave 2 interviews in English and Spanish were conducted between May 29 and June 21, 2014, with the oversample interviews conducted between August 5 and September 15, 2014.

Of the 2013 sample of 2,568 adults, 50% ($N=1,285$) completed the 2014 wave 2 survey. (Details regarding the outcome of call attempts are provided in an online supplement to this article.) Attrition weights were developed by using a rich set of 24 demographic and attitudinal variables from the baseline.

All analyses were weighted using attrition and sample weights. The sample weight was developed in a two-stage process that first accounted for the probability of selecting respondents from landline versus cell phone samples and, second, aligned the demographic and regional characteristics of the sample to 2010 U.S. Census distributions of geographic region and race-ethnicity, thereby accounting for an ethnicity-based oversample. The attrition weight was computed by using the inverse probability of responding to the survey at both waves.

All participants consented to be interviewed for both the baseline and follow-up surveys. Verbal consent was witnessed and formally recorded. This study was approved by the RAND Corporation's human subjects protection committee (project 2014-0288).

Measures

Respondents were asked at both waves to rate their willingness to move next door to a person with a serious mental illness. This item was adapted from the U.S. General Social Survey (8) and is a common measure of one type of social distance (20–22). Social distance is sometimes measured as a scale comprising multiple items assessing willingness to engage in a variety of activities (21); we were interested specifically in willingness to move next door and in associated policy implications. This item has been successfully used to detect significant pre-post effects of stigma-reduction interventions (23, 24). Response options ranged from 1, definitely willing, to 4, definitely unwilling. Responses were dichotomized into respondents who were definitely or probably willing versus others and scored to indicate unwillingness, consistent with methods used in previous studies.

Contact was measured by asking respondents at both waves whether they had had contact with anyone with a mental health problem in the past 12 months (0, no, and 1, yes). Change in contact between the waves was derived by subtracting contact at wave 1 from contact at wave 2. Thus, higher scores on this variable reflected increased contact between waves, and lower scores reflected decreased contact.

To assess beliefs about the dangerousness of individuals with mental illness, respondents were asked at wave 1 and wave 2 how much they agreed or disagreed with the statement, "A person with mental illness is a danger to others." Response options ranged from 1, strongly agree, to 5, strongly disagree. This measure is drawn from the 2006 Centers for Disease Control and Prevention Health-Styles survey (25). The item was dichotomized to reflect agreement (strongly agree or agree, 1) versus all other responses (coded as 0). Change in dangerousness was derived as perceived dangerousness at wave 1 minus perceived dangerousness at wave 2; higher scores reflect reductions in perceived dangerousness.

Respondents provided demographic information at wave 1, including age, sex, and race-ethnicity. To control for the possible influence of personal experience with mental health issues on the outcome and its predictors, respondents were also asked at both waves whether they themselves had ever had a mental health problem and whether a family member had a mental health problem (response options were yes or no). Previous research has sometimes conceptualized a personal diagnosis and a family relationship to someone with mental illness as levels of contact (26). However, a person may have a family member with a mental illness but may not have had contact with the family member in the past

12 months. We sought to capture actual experiences of contact within the past 12 months while recognizing that family experience may confer some familiarity with mental illness even when individuals have not had contact with the family member in the past year. Personal diagnosis is a distinct form of "contact" that is associated with differential stigma outcomes, compared with contact with others (27), and including it as a covariate allowed us to parse the impact of contact regardless of personal diagnosis.

Analyses

We fit a longitudinal model that predicted individuals' unwillingness to move next door to someone with mental illness at each wave by using contact, perceived dangerousness, demographic factors, and the personal experience variables (own and family history of mental illness). An indicator for wave was included to capture variation in unwillingness to move next door across time that was independent of other variables in the model, and we accounted for within-person correlation by including an individual-level random intercept. The contact predictor variables included past-year contact at wave 1 and change in contact between waves. The perceived dangerousness predictors included perceptions of dangerousness at wave 1 and changes in perceptions between wave 1 and wave 2. We ran one model that included only the contact, personal experience, and demographic variables (i.e., danger was omitted) (model 1) and one with the two danger indicators added (model 2). The first model allowed us to consider associations of contact with unwillingness to live nearby overall. A comparison of the first with the second model allowed us to observe what portion of contact associations might be explained by covariation between contact and perceptions of dangerousness. The second model also enabled us to observe independent associations of contact, dangerousness, and personal experience with unwillingness to live nearby a person with mental illness.

Our study operationalized change in contact as continuous—people could experience reduced contact, no change, or increased contact from one year to the next. We tested the sensitivity of our findings to this specification by rerunning each model with two dummy-coded variables (representing an increase and a decrease in contact from wave 1 to wave 2 relative to the reference group of no change).

RESULTS

Of the 1,285 participants, between 0% and 5% had missing data for individual variables in the model, resulting in a final sample of 1,057 after listwise deletion. Participants were approximately evenly distributed across sex and age categories, and the race-ethnicity mix reflected California's population (Table 1). The proportion of respondents unwilling to move next door to someone with mental illness was 40% at wave 1 and 34% at wave 2 (Table 2). The

TABLE 1. Characteristics of 1,057 California adults who responded to a survey in both 2013 and 2014^a

Characteristic	N	%
Age		
18–29	173	24
30–39	148	18
40–49	185	20
50–64	335	25
≥65	216	14
Race-ethnicity and language preference		
Asian, prefers English	44	5
Asian, prefers Asian language	88	7
Black, prefers English	157	6
Latino, prefers English	128	19
Latino, prefers Spanish	117	17
White, prefers English	453	42
Other	70	6
Sex		
Male	512	49
Female	545	51
Personal experience with mental illness		
Ever had a mental illness	287	24
Has a family member with mental illness	577	51

^a Data represent unweighted frequencies and weighted percentages.

proportion unwilling to move near someone with mental illness did not differ significantly between all wave 1 respondents and the respondents who completed both waves (36% [N=897 of 2,480 respondents in wave 1] and 34% [N=358 of 1,057 in the final sample], respectively). For most of the sample (80%; N=846), experiences of past-year contact with someone with mental illness did not change between waves (i.e., those who reported contact at wave 1 also reported it at wave 2). Nearly a quarter (24%; N=252) changed their opinions about the dangerousness of people with mental illness between wave 1 and wave 2. About a quarter of the sample (24%) had ever had a mental health challenge, and about half (51%) had a family member with a mental illness (Table 1).

At wave 1, the cross-sectional bivariable relationship indicated that contact with someone with mental illness was associated with lower odds of being unwilling to live nearby someone with mental illness (OR=0.40) (Table 3). Perceived dangerousness of someone with mental illness at wave 1 was associated with greater odds of being unwilling to live nearby at wave 1 (OR=2.75). Other variables associated with lower odds of being unwilling to live nearby were as follows: ever having had a mental health problem (OR=0.52), having a family member with a mental health problem (OR=0.40), and being between the ages of 18 and 29 (OR=0.40). Compared with white respondents who preferred conducting the interview in English, three groups had statistically significantly greater odds at wave 1 of being unwilling to live near a person with mental illness: Asian American respondents

TABLE 2. Survey responses at two time points about unwillingness to move next door to a person with mental illness, beliefs about dangerousness, and contact^a

Response	Wave 1		Wave 2	
	%	95% CI	%	95% CI
Unwilling to move next door	40	36.6–43.3	34	30.6–37.2
Willing at wave 1, unwilling at wave 2	—	—	10	7.6–11.8
Unwilling at wave 1, willing at wave 2	—	—	16	13.3–18.3
Willingness did not change from wave 1 to wave 2	—	—	75	71.5–77.5
Believe individuals with mental illness are dangerous	26	22.7–28.8	26	22.9–28.9
Believed dangerous at wave 1 but not at wave 2	—	—	12	9.6–14.1
Believed not dangerous at wave 1, believed dangerous at wave 2	—	—	12	9.8–14.3
Beliefs about dangerousness did not change from wave 1 to wave 2	—	—	76	73.2–79.1
Had contact with someone with mental illness in past 12 months	64	60.9–67.6	63	59.7–66.5
Had contact at wave 1 but not at wave 2	—	—	11	8.5–12.6
Had no contact at wave 1 and had contact at wave 2	—	—	9	7.4–11.4
Contact did not change from wave 1 to wave 2	—	—	80	77.4–82.8

^a Responses are presented as weighted percentages of 1,057 respondents.

who preferred an Asian language for the interview (OR=5.76), Asian American respondents who preferred English (OR=2.22), and Latino respondents who preferred Spanish (OR=3.79).

In model 1 (which included all predictors except perceived dangerousness), wave 1 contact with someone with mental illness remained significantly associated with lower odds of being unwilling to live near someone with mental illness (OR=0.59) (Table 4). Increased contact from wave 1 to wave 2 also was independently associated with lower odds of being unwilling to live nearby at wave 2 (OR=0.51); after the analysis accounted for previous contact, those who had increased contact with an individual with mental illness in the year before wave 2 expressed more willingness to move next door to someone with mental illness. Our sensitivity analysis comparing increased and decreased contact to no change in contact clarified the nature of this association. Increased contact was marginally statistically significant for willingness to move next door to someone with mental illness in both models (model 1, OR=0.50, 95% CI=0.24–1.08, $p=0.08$; model 2, OR=0.49, 95% CI=0.23–1.04, $p=0.06$), and decreased contact was also marginally significant in both models (model 1, OR=1.94, 95% CI=0.94–4.02, $p=0.07$; model 2 OR=2.00, 95% CI=0.97–4.10, $p=0.06$). However, the

symmetry in their estimates and opposite associations with the outcome suggested a continuous relationship (see online supplement for details).

In model 1, family experience of mental illness was also associated with lower odds of being unwilling to live near someone with mental illness (OR=0.64) (Table 4). A lower likelihood of being unwilling to live nearby was also found among young adults (ages 18–29), compared with those age ≥ 30 (OR=0.38), and among respondents who indicated “other” race-ethnicity or language preference (OR=0.39, 95% CI=0.16–0.96), compared with white respondents who preferred speaking English. Spanish language–preferring Latino respondents (OR=3.96) and Asian American respondents who preferred an Asian language (OR=8.58) were more likely to be unwilling than white respondents who preferred English.

In model 2 (which included all predictors), perceived dangerousness of individuals with mental illness at wave 1 was independently associated with increased odds of being unwilling to live nearby someone with mental illness (OR=3.81). However, reductions in perceived dangerousness from wave 1 to wave 2 were not significantly associated with the odds of being unwilling. Increased contact across the two waves remained significantly associated with lower odds of being unwilling to live nearby (OR=0.50), but wave 1 contact was no longer significantly associated with the changes in unwillingness ($p=0.08$). With the exception of family history of a mental health problem and respondents who indicated some other race-ethnicity or language preference, all other significant model 1 associations remained statistically significant in model 2 (Table 4).

DISCUSSION

This study contributes to evidence that contact with someone with a mental illness represents an important approach for addressing the stigma of mental illness. Our work improved on methodological limitations in previous work (10) by examining contact status of the same individuals over time as a predictor of change in willingness to live near someone with mental illness. Our findings suggest that increased contact with individuals with mental illness is associated with decreased NIMBY attitudes up to a year later. Of note, these findings were from a representative sample of the public; previous research on the effect of social contact has typically involved evaluations of targeted trainings or presentations given to convenience samples via a time-intensive or repeated curriculum (17). For example, one study repeatedly exposed students to filmed social contact over the course of a year (28).

During the period in which our study was conducted, California was implementing a statewide initiative that included targeted contact-based educational programs to reduce mental illness stigma (29). Our sample was representative of the state, regardless of exposure to this state campaign, suggesting that any contact—irrespective of

TABLE 3. Cross-sectional associations of variables as predictors of unwillingness to move next door to someone with mental illness, wave 1 responses^a

Variable	OR	95% CI
Race-ethnicity and language preference (reference: white, prefers English during interview)		
Asian, prefers English	2.22*	1.14–4.31
Asian, prefers Asian language	5.76***	3.24–10.24
Black, prefers English	.99	.65–1.51
Latino, prefers English	1.11	.71–1.73
Latino, prefers Spanish	3.79***	2.42–5.93
Other race-ethnicity and language preference	.65	.35–1.21
Female (reference: male)	1.01	.76–1.34
Age 18–29 (reference: ≥ 30)	.40***	.27–.61
Ever had a mental health problem (reference: no)	.52***	.37–.72
Has a family member with a mental health problem (reference: no)	.40***	.30–.54
Contact with a person with mental illness (reference: no contact)	.40***	.30–.54
Believes people with mental illness are dangerous (reference: neutral or does not believe this)	2.75***	1.99–3.81

^a Associations were determined with bivariable estimates.

* $p < .05$, *** $p < .001$.

whether it is naturally occurring or part of a controlled exposure intervention—may be associated with decreased negative attitudes about living near someone with mental illness. It has also been noted that contact experiences are more influential when they are perceived as higher quality and when individuals have no previous contact or personal experience with mental illness (23, 30). This may be true for the naturally occurring contact we examined as well. However, the negative relationship between change in contact and social distance was significant even after the analysis accounted for prior contact and for personal experience with and family history of mental illness. Taken together, our findings suggest that increasing naturally occurring contact between the public and individuals with mental illness may help increase inclusion of individuals with mental illness and combat the negative public attitudes that have held back development of supportive housing and services.

Our results also suggest that the perception that individuals with mental illness are dangerous may be a particularly enduring stigmatizing belief. Approximately one-quarter of respondents at both time points believed that individuals with mental illness pose a danger to others, and these respondents were significantly more likely to be unwilling to move nearby someone with a mental illness. However, malleability of opinion was not related to

TABLE 4. Multivariable models predicting unwillingness to move next door to someone with serious mental illness

Variable	Model 1		Model 2	
	OR	95% CI	OR	95% CI
Race-ethnicity and language preference (reference: white, prefers English during interview)				
Asian, prefers English	1.83	.70–4.84	2.03	.77–5.38
Asian, prefers Asian language	8.58***	4.05–18.16	5.22***	2.46–11.09
Black, prefers English	.71	.39–1.29	.69	.38–1.23
Latino, prefers English	1.21	.65–2.26	1.25	.69–2.28
Latino, prefers Spanish	3.96***	1.92–8.19	3.10**	1.52–6.32
Other race-ethnicity and language preference	.39*	.16–.96	.39*	.17–.94
Female (reference: male)	.99	.65–1.50	.96	.64–1.44
Age 18–29 (reference: ≥30)	.38**	.21–.68	.37***	.21–.66
Ever had a mental health problem (reference: no)	.67	.42–1.06	.73	.46–1.15
Has a family member with a mental health problem (reference: no)	.64*	.41–.98	.67	.44–1.01
Wave	.62***	.47–.82	.62***	.46–.82
Contact with a person with mental illness (reference: no contact)				
Wave 1 contact	.59*	.35–.99	.63	.38–1.05
Increased contact from wave 1 to wave 2	.51**	.31–.84	.50**	.30–.81
Believes people with mental illness are dangerous (reference: neutral or does not believe this)	—	—	3.81***	2.29–6.35
Reduced belief in dangerousness from wave 1 to wave 2	—	—	.71	.42–1.19

* $p < .05$, ** $p < .01$, *** $p < .001$.

unwillingness in our study. The strong association between beliefs about dangerousness and being unwilling to move nearby, without any association with change in beliefs, might indicate that the belief that people with mental illness are dangerous and the unwillingness to move nearby tap into the same underlying aspect of mental illness stigma: a fear of being harmed by those with mental illness. However, change in beliefs about dangerousness over the course of a year did not appear to be involved in decreasing unwillingness to move near a person with mental illness. At the individual level, a slight change occurred in both directions; approximately one-quarter of respondents changed their opinion about dangerousness by wave 2. Identifying the levers that change these attitudes and beliefs could assist in improving the public's view of individuals with mental illness and in eliminating the harmful effects of mental illness stigma. As the findings of this study suggest, increasing contact with individuals with mental illness may be a potential mechanism for decreasing negative attitudes about living near someone with mental illness, but it does not appear to be associated with a change in beliefs about dangerousness.

Consistent with statewide findings for California (27), we found that NIMBY attitudes improved overall among the general public over time. However, a sizable portion of respondents were still unwilling to move next door to someone with a mental illness at both time points, highlighting the need to address this aspect of public stigma, which limits treatment and housing options for individuals already dealing with the stress of mental health challenges. As in other studies of social distance (4), younger respondents were less unwilling to move next door to someone with mental illness. However, more research is needed to determine whether this is an age or cohort effect. As in previous research (29), Asian American respondents who completed surveys in Mandarin, Cantonese, Vietnamese, Khmer, or Hmong were also significantly more unwilling to move near someone with a mental illness than were white respondents who preferred English in the survey.

There are some limitations to our understanding of the observed effects. First, actual contact is likely much higher than reported by the participants. Individuals may conceal their mental illness from others for many reasons (31). We could measure only instances of confirmed or perceived contact, but it is arguably only these that influence attitudes. We also did not assess the frequency or context in which the contact with someone with a mental illness occurred. Even though we did not make these distinctions,

we found significant associations between any type of contact and a reduction in unwillingness to move near someone with mental illness, highlighting the importance of contact experiences in understanding attitudes about social distance. Moreover, because contact could have occurred at any time in the past year, our results also do not provide full information about how long the effect of contact may last. The change coefficient might also indicate that having a negative change in contact (going from reported contact at wave 1 to no reported contact at wave 2) or stable contact (reported contact at both waves) is associated with greater unwillingness to move next door a person with mental illness, rather than new contact being associated with decreased unwillingness—an idea suggesting that continuous or renewed contact may be critical to attitudes. Our study was limited by the sample size in each of these subgroups, and future studies should further examine the directionality of the relationship between changes in contact with an individual with mental illness and unwillingness to move next door to such individuals and determine a timeline for any contact effects on this unwillingness.

Our measures of contact, perceived dangerousness, and NIMBY attitudes were single items. Future work should test whether use of scales that assess more complex multidimensional forms of these constructs results in similar findings. Our measure of contact also did not differentiate among types of mental illness encountered. Although perceptions of the type of mental illness may have differed in this regard (within and among participants), studies such as this one that use the generic term “mental illness” may have more practical relevance to the issue of NIMBY attitudes. The public usually is not privy to details about individuals’ diagnoses when housing or services for individuals with mental illness are proposed in a neighborhood. Rather, they are more likely to assume that the proposed housing or services are for individuals with any type of mental illness. Finally, this study also did not identify the mechanism by which contact may change NIMBY attitudes. Others have suggested that contact may reduce negative attitudes by reducing anxiety and increasing empathy (32). We tested this mechanism indirectly by exploring whether change in dangerousness beliefs predicted changes in unwillingness, but a change in these beliefs did not seem to be involved in decreasing negative attitudes, and more research is needed to identify other possible levers.

CONCLUSIONS

Increasing contact with individuals with mental illness may be one way to decrease negative attitudes among communities that are slated for new developments of housing for persons with mental illness. Our results suggest that respondents who had increased contact with individuals with mental illness in the past year were less likely to have negative attitudes about living near someone with mental illness. Although studies have shown that a targeted contact-based antistigma curriculum can improve social distance attitudes (17), there may also be benefits to increasing contact at the population level. Increased contact could also come from increased awareness of existing contact with individuals with mental illness. For example, intervention strategies that destigmatize and normalize disclosure of mental illness could increase the number of people who realize they have contact with someone with mental illness (33). More research is needed to understand the potentially differential impact of contact from new exposure versus new awareness of existing contact.

Housing interventions and services that seek to integrate individuals with mental illness into a community should consider that not all mental illness stigma beliefs are equal with regard to NIMBY attitudes. Our study found that initial beliefs about the dangerousness of individuals with mental illness were strongly associated with unwillingness to move nearby them. When the public views individuals with mental illness as dangerous, it is more likely to endorse coercive mental health treatment, such as forced hospitalization (7). It is also less willing to support community health centers

and community-based housing for individuals with mental illness, contributing to delays and shortages (2, 34, 35). To our knowledge, this study is the first showing that changes in perceptions of dangerousness were not associated with being unwilling to live near someone with mental illness. However, perceived dangerousness may still be important to these issues, because it is a core component of mental illness stigma and resulting discrimination.

Although future research is needed to address the limitations noted above, it is clear that contact plays an important role in the public’s willingness to live near individuals with mental illness. Interventions that increase such contact may help address these negative attitudes.

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