Mental Illness Stigma and Community Integration: Linking Perceived Experiences with Reported Behavior

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MENTAL ILLNESS STIGMA AND COMMUNITY INTEGRATION: LINKING PERCEIVED EXPERIENCES WITH REPORTED BEHAVIOR

by

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This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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ABSTRACT

Mental Illness Stigma and Community Integration: Linking Perceived Experiences with Reported Behavior

by

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Advisor: Philip T. Yanos

This study examines the relationship between individual and neighborhood characteristics, stigmatizing experiences, and measures of community integration among individuals with mental illness. Surveys were administered to two samples: 608 community member participants and 343 participants with mental health diagnoses. Participants in both samples were recruited from 3 community sites in the New York City metropolitan area: East/Central Harlem in Manhattan, Crown Heights/East Flatbush in Brooklyn, and Yonkers and Mt. Vernon in Southern Westchester. Negative symptoms and perceived level of community microaggressions were strong predictors of community integration for participants with mental illness. Prior contact with mental illness predicted less stigmatizing attitudes, and suburban values predicted more perpetrated microaggression behavior reported by community members. Contrary to hypotheses, no significant relationship was found between community member-reported and psychiatric sample-perceived stigma. Findings suggest that the community participation of individuals with severe mental illness is multifaceted and is best evaluated as a combination of both individual and neighborhood characteristics.
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1. Preface

Stigma of mental illness has been increasingly observed and empirically researched over time, with common stigmatizing attitudes including assumptions that most persons with mental illnesses are dangerous or violent, unpredictable, incompetent, and less human than others. These negative stereotypes often lead to the social rejection of those labeled as “mentally ill” within communities, and serve as significant barriers to recovery for those with a mental illness diagnosis. In setting the stage for the present study, this review will discuss: 1) an overview of the existing framework for conceptualizing mental illness stigma; 2) common stigmatizing attitudes and behaviors, their correlates, and their consequences; 3) a more recent but growing body of research on microaggression experiences, a more subtle form of stigmatization; and 4) the relationship between stigmatizing experiences and community integration among people with mental illness.

2. Conceptualizations of Mental Illness Stigma

In his seminal work regarding labeling theory, Goffman (1963) conceptualized stigma as a social process through which an individual attribute is perceived to differ from the “norm,” and thus is designated as undesirable and discrediting. He described several targets of stigma including individuals with “physical deformities,” social groups including race and religion, and perceived character flaws including individuals with histories of “mental disorders,” imprisonment, and addiction among others. Many contemporary conceptualizations of mental illness stigma have followed Goffman’s emphasis of stigma as a social process. Link, Cullen, Streuning, Shrout, and Dohrenwend (1989) proposed a “modified labeling approach” in which “individuals internalize societal conceptions of what it means to be labeled mentally ill” (p. 402). This is achieved via popular outlets including television, jokes, news media, and other social
communication that shape public conceptualizations of mental illness as a social status or marker, and as a result individuals come to expect the community at large will exhibit a certain amount of devaluation and discrimination towards mental illness. Official labels, or diagnoses, ensure the label of mental illness will become personally relevant to the stigmatized individual along with such negative attitudes and beliefs. Link et al. described three potential reactions one might experience holding a stigmatized status, including secrecy, withdrawal, and attempts to educate others. Additional negative outcomes associated with the stigmatized status include feelings of shame, decreased functioning and self-esteem, and vulnerability to future disorder.

More recently, Link and Phelan (2001) further conceptualized the process of stigma into four components in which 1) differences are first distinguished and labeled; 2) labeled individuals are linked to “undesirable characteristics,” or negative stereotypes, based upon dominant cultural beliefs; 3) labeled individuals are placed into categories to separate them from others without the label, or the “norm”; and 4) labeled individuals experience loss of status and discrimination leading to unequal outcomes compared with non-labeled individuals. The authors argued that stigma depends on access to societal power that allows for each of these four components, and offered a final definition of stigma as occurring “when elements of labeling, stereotyping, separation, status loss, and discrimination co-occur in a power situation that allows the components of stigma to unfold” (p. 367). In a similar conceptualization, Stier and Hinshaw (2007) offered a definition of stigmatization as consisting of stereotypes, prejudice, and discrimination, and described stigma as involving “the tendency toward attributing any and all negative attributes of the ‘outgroup’ member to…membership in the castigated group, fueling a vicious cycle of societal rebuff and personal internalization of the rejecting messages” (p. 5).
3. Individual and Community Predictors of Stigmatizing Attitudes.

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 also evidence that these attitudes are related to discriminatory behaviors (Cechnicki, Angermeyer, & Bielanska, 2011; Gonzalez-Torres, Oraa, Aristegui, Fernandez-Rivas, & Guimon, 2007; Lysaker, Tunze, Yanos, Roe, Ringer, & Rand, 2012; Switaj et al., 2012). Parcesepe and Cabassa (2012) conducted a literature review of population-based studies conducted in the United States and found that, overall, studies indicated both children and adults endorse stigmatizing attitudes about people with mental illnesses including the belief that they are dangerous or prone to violence. Additionally, studies found people to desire social distance as a result of beliefs about dangerousness and causal attributions of etiology. Common beliefs about people with mental illnesses found across studies included shaming of mental illness identity, placing blame upon the individual for having a mental illness, incompetence, and criminality. Although research supports that stigmatizing attitudes towards persons with mental illness are common, there is also research that suggests the degree to which community members endorse stigma may be influenced by a variety of community and individual level characteristics.

Predictors of Stigma.

Neighborhood characteristics. In a seminal 1972 paper, Levine argued that individual attitudes towards mental illness are formed not based upon the concept of mental illness alone, but rather from an individual’s general orientation towards societal issues as a whole. In an examination of stigmatizing attitudes across several European countries, findings indicated authoritarian social-political structures to hold “more restrictive” attitudes towards mental illness
in samples of respondents in Great Britain, Czechoslovakia, and West Germany. Further research regarding community correlates of stigmatizing attitudes has found liberal, nontraditional neighborhoods to be the closest to the “ideal” accepting community (Segal, Baumohl, & Moyles, 1980). In comparison, conservative, middle-class neighborhoods were found to have negative reactions to and a negative impact upon social integration of formerly institutionalized mental health patients.

There have been suggestions that income and residence in more urban areas are associated with stigma; in a random sample of 1,444 survey respondents in the United States, Martin, Pescosolido, and Tuch (2000) found higher income and urban residents were more likely to avoid or shun people living with mental illness. In a sample of 806 New York State residents, Gonzales, Chan, and Yanos (under review) found higher levels of neighborhood disadvantage and more conservative political ideology to predict higher levels of stigmatizing attitudes, while higher levels of completed education predicted lower levels of stigmatizing attitudes. Phelan and Link (2004) also found minority ethnic/racial groups, lower family income, and less formal income 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”, and then steadily diminishing as responses became more conservative. Using the same sample as Martin et al., Watson, Corrigan and Angell (2005) found conservative political ideology to be significantly related to attributing mental illness to bad character.

**Community stigma over time.** Within the last few decades, a shift from conceptualization of mental illness to biogenetic explanations has been accompanied by the
assumption that public attitudes towards mental illness would improve as a result. Several studies have refuted this assumption, however. Angermeyer, Holzinger, Carta, and Schomerus (2011) reviewed 39 population-based studies of public attitudes including a total of 72,963 participants including Europe, North America, Asia, South America, Africa, and Australia. Overall, they found no significant relationship between belief in biogenetic causes of mental illness and attitudes as measured by desire for social distance. For schizophrenia, biogenetic beliefs were actually significantly related to increase in desire for social distance. Results also indicated that attributions of dangerousness and unpredictability were strongly related to desire for increased social distance, and attributing mental illness to “personal weakness” was associated with reduced desire for social distance. Similarly, Sears, Pomerantz, Segrist, and Rose (2011) examined the relationship between attributional beliefs and desire for social distance from people with mental illnesses in 118 Midwestern college students. They found no relationship between biological or nonbiological attributions and desire for social distance. Overall, participants indicated a preference for more social distance from individuals diagnosed with schizophrenia and alcohol dependence.

Phelan, Link, Stueve, and Pescosolido (2000) compared mental illness stigmatization research from the 1950s to the 1990s beginning with social research in the 1950s (Nunnally, 1961; Star, 1952, 1955), that found negative public attitudes including fear and rejection and stereotypes including that people with mental illnesses are “dangerous,” “dirty,” “weak,” and “ignorant” (p. 46). The authors used the Mental Health Module of the 1996 General Social Survey (GSS) to make comparisons between questions used in Star’s 1952 and 1955 manuscripts and public attitudes in the United States decades later. They hypothesized that attitudes would have changed dramatically due to increased utilization of services, greater disclosure of mental
illness by public figures, and empirical research findings. They found a broadening conceptualization in that public ideas of mental illness were no longer limited to psychosis, as in the 1950s. The authors argue this finding suggests public ideas of mental illness are no longer as severe as in the 1950s, but that this does not necessarily indicate closer alignment with psychiatric definitions. Additionally, 1996 participants included dangerousness in descriptions of mental illness at almost double the rate of 1950 participants and specifically when psychosis was mentioned. The attribution of dangerousness to psychosis was not specific to any sociodemographic group.

More recently, Pescosolido et al. (2010) compared attitudes towards mental illness between the 1996 MacArthur Mental Health Study (as a module in the General Social Survey, or GSS), and the 2006 GSS. In 2006, a higher percentage (13%) of participants reported a neurobiological understanding of mental illness, as compared with 6% in 1996. Public endorsement for treatment also increased, including endorsement for prescription medicine. There was, however, no significant decrease between 1996 and 2006 in any indicator of stigma. The majority of participants indicated unwillingness to work, socialize, or have someone with mental illness marry into their family. More participants in 2006 indicated unwillingness to have a neighbor diagnosed with schizophrenia as compared with the 1996 survey, and the majority of respondents indicated that someone with schizophrenia would likely be violent towards others. Importantly, holding a neurobiological conceptualization of schizophrenia increased odds that participants desired social distance by 95%.

Silton, Flannelly, Milstein, and Vaaler (2011) compared data from the 1996 and 2006 General Social Surveys (GSS) consisting of four vignettes describing individuals meeting criteria for alcohol dependence, depression, schizophrenia, or minor problems. They found participants’
desire for social distance depended on the nature of the presenting problem, the perception of mental illness as the specific problem, and the perception of the presenting individual as being a danger to others. Data from the 2006 study demonstrated a significant decline in desire for social distance from individuals with depression and alcoholism as compared with the 1996 study. However, desire for social distance was actually higher in 2006 than 1996 for individuals with schizophrenia, and this was largely a function of the perception of such individuals as being dangerous.

**Cultural perceptions of mental illness.** Culture has also been found to play a role in stigmatizing attitudes towards mental illness. Abdullah and Brown (2011) provided a review of the research examining the relationship between culture and mental illness stigma and concluded that cultural values are particularly important for Asian and African Americans, which might be explained by the collectivist nature of many Asian and African cultures. They hypothesized that mental illness could be seen as a method of nonconformity and something that affects the entire group as opposed to one individual. Additionally, a person’s inability to take on different roles in society due to mental illness could be attributed to personal failure, or in more spiritual cultures could be perceived as punishment from God.

Additional research has suggested a higher rate of negative attitudes held by individuals of Asian ethnicity as compared with others. WonPat-Borja, Yang, Link, and Phelan (2012) found Asian Americans were more likely to endorse eugenic statements about mental illness compared to European Americans. In an additional study, Cheon and Chiao (2012) compared implicit and explicit attitudes towards mental illness between 40 Asian and 40 European American college students. They found Asian American students to hold significantly stronger implicit biases towards mental illness compared with Caucasian American students using the
Go/No-Go Association Task (GNAT; Nosek & Banaji, 2001), a categorization task that measures implicit attitudes towards social groups. Asian American students also scored significantly higher than Caucasian American students on explicit measures of desire for social distance from individuals with mental illnesses. However, such findings do not imply negative attitudes are widespread throughout Asian countries; Kido, Kawakami, Miyamoto, Chiba, and Tsuchiya (2013) examined the relationship between social capital and stigmatizing attitudes towards persons with mental illnesses in 516 community residents in Tokyo, Japan. They found individuals that perceive trust in the community and reciprocity and norm of cooperation held significantly lower stigma towards mental illness.

Additional research has found attitudes towards mental illness and treatment seeking to vary depending on culture in those diagnosed with mental illness. Carpenter-Song and colleagues (2010) evaluated attitudes towards mental illness and treatment in 25 African American, Latino, and European American participants diagnosed with severe mental illnesses. Results indicated European Americans held attitudes most closely matching biogenetic and disease-oriented conceptualizations of mental illness and were more likely to seek treatment. African American and Latino participants held non-biomedical perspectives of mental illness and negative attitudes towards treatment. European Americans were less aware of stigmatization and the potential for social rejection, whereas African Americans and Latinos were more aware of the potential for social damage.

Processes of dehumanization have also been studied in regards to stigmatizing attitudes towards mental illness. Martinez, Piff, Mendoza-Denton, and Hinshaw (2011) investigated how attributing humanity to someone with mental illness could influence ratings of dangerousness and desire for social distance from that individual. Results indicated a tendency to reduce
ascribed humanity of individuals upon learning of a mental illness label as compared to a general
physical illness label, and this reduction predicted increased perceptions of dangerousness.
However, providing information indicating normative behavior and full remission status led to
greater ascribed humanity and reductions in perceptions of dangerousness, which led to
decreased desire for social distance.

4. Social Rejection of Mental Illness

As Link and Phelan describe in their modified labeling theory, individuals labeled as
having a mental illness become part of a socially marginalized group based upon that
categorization. Negative stereotypes ascribed to the group are then ascribed to the self as a result
of the labeling process, and individuals experience discrimination and social rejection. This
process has been supported by a number of empirical research studies. In a survey of 202
individuals receiving mental health treatment for schizophrenia in Poland, Cechnicki,
Angermeyer, and Bielanska (2011) found the majority of participants anticipated experiencing
discrimination interpersonally (58%) in addition to in employment settings (55%). Participants
also reported commonly experiencing feelings of rejection (87%) and having had an
interpersonal relationship end due to their mental illness (50%). Participants were more likely to
report experiencing structural discrimination if they had lower education levels, lived in urban
areas, were unemployed, female, and separated or widowed, and were more likely to report
experiencing interpersonal rejection if they had lower education levels and more hospitalizations.

Lundberg, Hansson, Wentz, and Björkman (2007) examined prevalence rates of rejection
and discrimination and their relationship to client characteristics in a sample of 200 people with
mental illness. They found participants to most frequently report having been treated differently
and feeling that people are uncomfortable around them after being a patient in a mental hospital.
There were no significant relationships between rejection and discrimination and sociodemographic and clinical characteristics, but negative relationships were found between global functioning and both rejection experiences and perceptions of devaluation/discrimination. Devaluation/discrimination and rejection experiences were positively correlated, as well as number of previous psychiatric admissions and rejection experiences. A diagnosis of psychosis, receiving prior inpatient care, and contact with social services were associated with higher rates of reported rejection experiences compared with other diagnoses, outpatient care, and no contact with social services. Thus, those with low levels of psychosocial functioning seemed to have the highest risk for experiencing rejection and discrimination.

In another Swedish sample of participants having previous or current contact with mental health services, Lundberg et al. (2009) measured several recovery-related outcomes related to social rejection experiences. The most commonly endorsed rejection experiences included being treated differently by friends, being treated as less competent by others, and belief of being avoided by others. Social rejection experiences were negatively associated with self-esteem, empowerment, and sense of coherence (e.g., the “extent to which one has a pervasive, enduring though dynamic, feeling of confidence that one’s environment is predictable and that things will work out as well as can reasonably be expected”). Within the sample, higher levels of reported rejection experiences were associated with worse psychosocial functioning, more inpatient episodes, psychosis diagnosis, current contact with social services, childlessness, and receipt of disability pension.

In an additional cross-sectional study of 202 individuals with severe mental illness in London, Farrelly et al. (2014) found 93% of participants reported anticipating discrimination experiences due to their mental illness and 87% experienced discrimination in at least one area
the year prior. Women, participants of mixed ethnicity, and participants with higher levels of education reported higher levels of discrimination, and more experienced and anticipated discrimination was associated with anxiety, depression, and suspiciousness.

Additional studies have demonstrated negative outcomes related to rejection experiences. Wright, Gronfein, and Owens (2000) examined rejection experiences over time in 88 participants recently discharged from a long-term psychiatric treatment facility. They found social rejection experiences were related to persistent stress in social situations in addition to increased self-deprecation, which over time led to decreased feelings of mastery and control. Further, rejection experiences and feelings about the self were not significantly affected by whether follow-up care was received in the community or a state hospital. Yanos, Rosenfield, and Horwitz (2001) examined experiences of negative social interactions in 104 participants with severe mental illness living in the community. They found socially supportive interactions were significantly associated with higher ratings of self-reported satisfaction with social life, in addition to frequency of social contact, frequency of family contact, number of leisure activities, and work status. Negative social interactions were related to reports of poorer overall life satisfaction and satisfaction with leisure and finances. This impact of social relationships upon reported quality of life remained significant when controlling for psychiatric symptoms and demographic characteristics.

Perry (2011) described the recognition of early labeling theorists including Goffman and Link that “stigma processes are less powerful among family members of people with mental illness” (p. 462). She examined how having a psychiatric diagnosis might affect close relationships, its effect upon members of social networks who are sympathetic towards the individual, and the impact of disclosure to others who react compassionately upon perceived
support in individuals having their first contact with mental health treatment services in Indianapolis, Indiana. Overall, 17% of participants reported perceiving someone else as unwilling to make friends, 20% reported having a friendship ended due to their mental illness, and 23% of participants reported that others seemed anxious or uncomfortable around them due to their mental illness. Participants with diagnoses of bipolar disorder perceived larger and more supportive social networks compared to those experiencing less severe or visible symptoms, and also reported having more members of their social network who were aware and sympathetic in regards to diagnosis. She describes these findings as a “paradox,” in that individuals with severe mental illnesses who are more visible to others receive support from a “safety net” of close relationships, but also attract “harmful attention from the public at large” (p. 471). This suggests that although individuals may have a close social network that is perceived as supportive, this does not exclude them from experiences of social rejection as a result of being labeled with mental illness.

5. Microaggressions

The concept of “benevolent discrimination” against individuals with mental illness has been described as “seemingly well-intentioned special-care treatment” (Ilic et al., 2013, p. 38) presenting potential barrier to recovery by increasing social distance. This type of subtle discrimination draws parallels to a recent and growing literature on microaggression experiences. Sue (2010) defines microaggressions as “everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, that communicate hostile, derogatory, or negative messages to target persons based solely upon their marginalized group membership” (p.3). They can demean and invalidate group identities, and act as a subtle communication of inferiority based upon this group membership. What differentiates microaggressions from more
traditional and overt forms of discrimination is that they can be delivered unconsciously, by otherwise well-intentioned people who are unaware of their negative underpinnings and potential harm to members of social minority groups. Such seemingly harmless social interactions have been found to have negative consequences in a number of different groups, including race/ethnicity, gender, sexual orientation, and physical disability. Studies have indicated specific negative outcomes related to mental health (Nadal, Griffin, Wong, Hamit, & Rasmus, 2014), self-esteem (Nadal, Wong, Griffin, Davidoff, & Sriken, 2014), academic performance (Forrest-Bank & Jenson, 2015), self-efficacy, and binge-drinking behavior (Blume, Lovato, Thyken, & Denny, 2012).

**Racial Microaggressions**

Racial microaggressions have been described and examined within a number of different groups and settings, and have been found to often fall into three subcategories: microassaults, microinsults, and microinvalidations. Microassaults refer to “explicit racial derogation characterized primarily by a verbal or nonverbal attack meant to hurt the intended victim” including “name-calling, avoidant behavior, or purposeful discriminatory actions.” (Sue et al., 2007, p. 274). Microinsults refer to “communications that convey rudeness and insensitivity and demean a person’s racial heritage or identity” (p. 274), and microinvalidations refer to “communications that exclude, negate, or nullify the psychological thoughts, feelings, or experiential reality of a person of color” (p. 274).

In a sample of African American doctoral students and graduates, Torres, Driscoll, and Burrow (2010) determined three categories of racial discrimination including Assumption of Criminality/Second-Class Citizen, Underestimation of Personal Ability, and Cultural/Racial Isolation. At one year follow-up, they found microaggressions communicating an
underestimation of personal abilities were related to greater perceived stress, which was moderated by coping skills such that use of more active coping behaviors were related to lower perceived stress. This relationship between microaggressions and perceived stress was also related to greater depressive symptoms. Wang, Leu, and Shoda (2011) also found perceptions of subtle racial discrimination in a sample of Asian American college students to be related to ratings of negative emotionality, and another web-based study identified microaggressions in an online forum targeting American Indians on a university campus (Clark, Spanierman, Reed, Soble, & Cabana, 2011), demonstrating the wide variety of racial and ethnic groups affected by microaggression experiences. It has also been argued that their presence within the therapeutic setting might contribute to a treatment-seeking disparity that exists between racial groups (Buser, 2009; Constantine, 2007), suggesting important implications for those with mental illness who experience microaggressions.

In a qualitative study, Sue, Capodilupo, and Holder (2008) identified four major themes of reactions to microaggressions described by participants identifying as Black Americans. Healthy Paranoia was described as suspiciousness before or following an incident of microaggressions as a reaction to the number of daily incidents. Sanity Check involved using relationships with other Black Americans including friends, family, and coworkers to “check” or corroborate perceptions of microaggression incidents. Empowering and Validating Self involved the belief that incidents are the fault of the aggressor as opposed to the self, and Rescuing Offenders involved feeling the need to consider the White perpetrator’s feelings with regard to the event before their own feelings. Commonly reported feelings resulting from microaggressions included feelings of invisibility, powerlessness, loss of integrity, and heightened stress levels.
The Racial and Ethnic Microaggressions Scale (REMS; Nadal, 2011) was developed to measure microaggressions experienced by marginalized racial and ethnic groups. Categories of microaggressions reported by focus group participants included Assumptions of Inferiority, Treatment as a Second-Class Citizen, Assumptions of Criminality, Microinvalidations, Exoticization/Assumptions of Similarity, Environmental Microaggressions, and Workplace and School Microaggressions. The impact of multiracial identities has also been considered in relation to microaggression experiences. Nadal et al. (2011) found that both monoracial people of color (POC) and multiracial participants reported significantly more microaggressions than monoracial Whites. There were no significant differences between the reported frequency of microaggressions between monoracial POC and multiracial participants, and multiracial participants reported similar microaggression experiences to monoracial POC. However, multiracial participants also reported unique experiences including isolation within the family environment, exclusion from one or both groups, and the assumption that they have a pathological family background. Multiracial participants reported having experienced microaggressions perpetrated by both monoracial Whites and monoracial POC.

**Gender Microaggressions**

Gender microaggressions have been categorized into Sexual Objectification, Second-Class Citizen, Assumptions of Inferiority, Denial of the Reality of Sexism, Assumptions of Traditional Gender Roles, Use of Sexist Language, Denial of Individual Sexism, and Environmental Microaggressions (Capodilupo et al., 2010). In one qualitative study, female college students reported experiencing sexism that communicated traditional stereotypes, demeaning comments and behaviors, and sexual objectification. These experiences were related to decreased comfort and self-esteem, feelings of anger, and depression (Swim, Hyers, Cohen, &
Ferguson, 2001). In another sample including women undergoing therapy, scores on the Microaggressions Against Women Scale (MAWS; Owen, Tao, & Rodolfa, 2010) were negatively related to self-reports of psychological well-being, with working alliance acting as a mediator for the relationship.

**Sexual Orientation Microaggressions**

Shelton and Delgado-Romero (2011) identified seven themes of microaggression experiences within individual therapy that were related to sexual orientation; these included Assumption that Sexual Orientation is the Cause of All Presenting Issues, Avoidance and Minimization of Sexual Orientation, Attempts to Overidentify with LGBTQ Clients, making Stereotypical Assumptions, Expressions of Heteronormative Bias, Assumption that LGBTQ Individuals Need Psychotherapeutic Treatment, and Warnings about the Dangers of Identifying as LGBTQ. Participants described many negative affective consequences including feeling invisible, rejected, invalidated, and angry, which negatively affected active participation within therapy. Balsam, Molina, Beadnell, Simoni, and Walters (2011) also examined multiple minority stress in regards to LGBT and people of color (POC), and developed a scale that included the subcategories Racism in LGBT Communities, Heterosexism in Racial/Ethnic Minority Communities, and Racism in Dating and Close Relationships. From a national web-based sample, men reported more instances and distress regarding LBGT microaggressions than women, gay men and lesbians reported more instances and distress than bisexual men and women, and Asian Americans reported more instances distress than African Americans and Latina/os.

**Physical Disability Microaggressions**
Qualitative studies have also examined microaggressions as experienced by those with physical disability, although the literature is not yet as developed as with the previously mentioned groups. Keller and Galgay (2010) have identified 10 categories of microaggressions including Denial of Personal Identity, Denial of Disability Experience, Denial of Privacy, Helplessness (referring to “when people frantically try to help PWDs”), Secondary Gain (when someone expects praise for helping a PWD), Spread Effect (when additional expectations are “assumed to be due to one specific disability”), Infantilization (being “treated like a child”), Patronization (“praised for almost anything”), Second-Class Citizen (“right to equality is denied”), and Desexualization.

**Mental Illness Microaggressions**

It has been argued that members of virtually any marginalized group can become targets of microaggressions; Sue (2010) describes socially marginalized groups as “confined to existing on the margins of our social, cultural, political, and economic systems,” resulting in “exclusion from the mainstream of life in our society, unequal treatment, and social injustice.” (p. 5).

Considering Link and Phelan’s 2001 model of mental illness stigma as including differential social power, individuals with mental illness would qualify as a marginalized group in society. Additionally, research documenting social rejection experiences share many similarities with the concept of microaggressions. However, until recently there was no research connecting microaggression experiences to persons with mental illnesses.

Gonzales, Davidoff, Nadal, and Yanos (2015) conducted a qualitative study to identify categories of microaggressions experienced by individuals with mental illnesses using two samples of individuals taken from an outpatient treatment center and a college in New York City. Participants identified five major themes, including those communicating Invalidation (including
minimization, symptomizing, and patronization), Assumption of Inferiority (associated with assumptions of incompetence and lower intelligence and denial of personal agency), Fear of Mental Illness (associated with assumptions of dangerousness and unpredictability), Shaming of Mental Illness, and Second Class Citizen. In addition to reporting experiences corresponding to these themes, participants also reported the majority of such experiences to come from those with whom they shared close or seemingly supportive personal relationships, including friends and family members and even treatment providers. These findings illustrated the nature of microaggressions as being perpetrated by well-meaning individuals, but also underlined the potential for negative consequences as being more severe because they’re perpetrated within a relationship centered on trust.

The Mental Illness Microaggressions Scale – Perpetrator Version (MIMS-P; Gonzales, Davidoff, DeLuca, & Yanos, 2015) was developed using the themes identified in Gonzales et al. (in press), and is the first microaggressions instrument developed for administration to “perpetrators” of microaggressions as opposed to those belonging to the targeted social group. It contains such items as “If someone I’m close to told me that they had a mental illness diagnosis, I would talk more slowly so that they wouldn’t get confused” and “If I saw a person who I thought had a mental illness in public, I would be careful in case they ‘snap.’” Three subscales were revealed in exploratory factor analysis: Assumption of Inability (α = .80), Patronization (α = .78), and Fear of Mental Illness (α = .64), and additional analyses supported convergent validity. Importantly, the scale demonstrated no significant relationship with a measure of social desirability, suggesting participant responses were not influenced by social desirability bias.
6. Consequences of Mental Illness Stigma

Stigmatization of mental illness, along with social rejection and discrimination experiences, has demonstrated important consequences for mental health recovery. Rusch and colleagues (2009) offered a model of stigma-related stress to explain processes of stress and coping with mental illness stigma. The model includes four components: 1) public and personal factors predicting the appraisal of stigma as stressful; 2) the cognitive appraisal of stigma stress itself; 3) emotional and cognitive responses to stigma stress; and 4) outcome variables influenced by stress responses. Following the model, stigma-related stress occurs when “perceived harm exceeds perceived coping resources” (p. 60). Rusch et al. tested the model using 85 participants with schizophrenia, schizoaffective and affective disorders; results indicated no difference in stress appraisal according to diagnosis, but there was a positive relationship between stress appraisal and rejection sensitivity suggesting that perceived experiences of stress are related to future sensitivity for rejection experiences. Higher perceived societal stigma and lower group value of mental illness were associated with high appraisals of stigma stress, and this relationship remained constant while controlling for social cognitive deficits, depressive symptoms, and diagnosis.

In support of the idea that group identification can combat against stigma, Crabtree, Haslam, Postmes, and Haslam (2010) examined whether identification with a stigmatized group could have an effect upon the adoption of positive coping strategies and positively impact self-esteem in a sample of 73 members of mental health support groups in England. Group identification was significantly related to scores on measures of stereotype rejection, stigma resistance, and perceived external social support, and each of these was positively related with self-esteem. Structural equation modeling yielded a model in which social identification with the
support group promoted coping strategies that increase ability to challenge stigma, leading to positive changes in self-esteem. Additionally, the model implied that “identification with a stigmatized group can have negative implications for self-esteem…but that these are suppressed because such identification also serves as a basis for collective coping strategies…that protect individuals from the negative implications of their group membership” (p. 563).

Although results indicate a positive influence of group identification upon stigma resistance, individuals with mental illness may not necessarily identify with others in their group, but instead may internalize commonly held negative attitudes. Corrigan, Watson, and Barr (2006) described perceived stigmatization as “stereotype awareness,” or the awareness of general culturally held negative beliefs. They argued that those with mental illness who display stereotype awareness and also agree with the perceived stereotypes experience lowered self-esteem if they believe the stereotypes to apply to themselves. Experiences of discrimination and stigmatization can also have important consequences in regards to the identity of those with mental illness. Internalized stigma, described as a process of individual identity transformation, occurs when individuals are not only aware of existing stereotypes but replace previously held or hoped for identities with perceived stigmatizing views of mental illness (Yanos, Roe, Markus, & Lysaker, 2008). A recent meta-analysis found this stigma internalization to be positively associated with psychiatric symptom severity and negatively associated with treatment adherence and other psychosocial variables including hope, self-esteem, and empowerment (Livingston & Boyd, 2010).

**Internalized Stigma**

Internalized stigma has been found to be a cross-national concern for individuals with mental illnesses, with research supporting that it exists in every continent. However, there is also
evidence that internalized stigma may vary depending on local cultural context, which may be influenced by levels and types of community stigma. Freidl, Lang, and Scherer (2003) administered a survey to 90 psychiatric patients and 1042 participants in the Austrian general population asking the degree to which participants agree with five devaluing statements about mental patients. Compared with general population participants, patient participants thought significantly less often that most people devalue mental patients including thinking they are “less intelligent,” “less trustworthy,” and “taken less seriously” (p. 273). In a sample of 735 students in Ireland, Lally, O’Conghaile, Quigley, Bainbridge, and McDonald (2013) found personal stigmatizing attitudes held towards mental illness were significantly related to a decreased likelihood of future help-seeking intention, whereas perceptions of public stigma levels were not significantly associated with future help-seeking intention. Participants were more likely to have higher levels of personal stigma towards mental illness if they were younger than 25, had no history of mental illness, and had no prior personal contact with someone with mental illness.

Girma et al. (2013) conducted a cross-sectional study of 422 participants receiving psychiatric services at a hospital in Ethiopia. They found participants endorsed high feelings of alienation and inferiority as a result of having a mental illness, and females demonstrated higher levels of self-stigma than male participants. Higher levels of self-stigma were associated with a history of traditional treatment and higher perceptions of supernatural causes of mental illness. Higher education and higher levels of self-esteem were related to lower levels of self-stigma. In an additional cross-national study of 796 individuals with mental illnesses in Croatia, Israel, Lithuania, Malta, Romania, and Sweden, Krajewski, Burazeri, and Brand (2013) found 33% of participants to endorse moderate-to-high levels of self-stigma. Predictors of self-stigma included higher age, unemployment, fewer social contacts, lower self-esteem, and higher sense of
perceived powerlessness. Brohan, Elgie, Sartorius, and Thornicroft (2010) examined self-stigma, stigma resistance, empowerment, and perceived discrimination in a sample of 1,229 participants with schizophrenia and psychotic disorders across 14 European countries and found 41.7% reported either moderate or high levels of self-stigma. In an additional sample of 1,182 participants with bipolar disorder and depression, Brohan, Gauci, Sartorius, and Thornicroft (2011) found 21.7% reported moderate or high levels of self-stigma. Thus, it seems self-stigma levels can vary according to diagnosis; however it is important to consider that although depressive disorders could be considered “less severe” and thus less stigmatized compared to psychotic disorders, 1 in 5 participants reported experiencing significant levels of internalized negative attitudes.

Corrigan and Watson (2002) describe how personal responses to mental illness stigma can differ between individuals who experience stigmatizing experiences and social rejection. They build a situational model of self-stigma to explain the differential response of individuals to stigmatizing experiences. First, the stigmatizing condition elicits negative reactions from others. The stigmatized individual then ascribes a level of legitimacy to the reaction or stereotype; if they ascribe a high level of legitimacy, this leads to lowered self-esteem and self-efficacy. If the individual ascribes a low amount of legitimacy to the stigmatizing experience, their self-esteem is not affected. Furthermore, the individual’s level of identification with the stigmatized group also determines whether they are indifferent to the stigmatizing experience (low group identification) or experience righteous anger as a result (high group identification).

In an additional examination of internalized stigma, Yanos, Roe, Markus, and Lysaker (2008) proposed a model to explain the impact of internalized stigma upon outcomes related to recovery in individuals with severe mental illness. Path analysis revealed the impact of
internalized stigma via reduction of an individual’s hope and self-esteem. This reduction leads to negative recovery-related outcomes including depressive symptoms, social avoidance, and preference for use of avoidant coping strategies. They conclude “the process of accepting and internalizing social stigma changes the way people perceive and feel about themselves and their likelihood to plan and meet their life goals and consequently leads them to avoid others and experience depression.” (p. 1440). Maschiach-Ezenberg, Hasson-Ohayon, Yanos, Lysaker, and Roe (2013) investigated the role of hope and self-esteem in the relationship between internalized stigma and subjective quality of life in 179 individuals with severe mental illnesses. Results supported a relationship between internalized stigma and quality of life with self-esteem and hope as mediators; specifically, that internalized stigma leads to decreased self-esteem, which leads to decreased hope, which then negatively impacts subjective quality of life. An additional study by Cavelti, Rusch, and Vauth (2014) provided further partial support for the model with findings among 133 outpatients with schizophrenia demonstrating self-stigma to be related to poorer functioning and more positive symptoms one year later. Additionally, higher insight and increased self-stigma were related to demoralization.

Although research has demonstrated international prevalence and negative correlates of self-stigma, less is known about variation in self-stigma and its potential relationship with community stigma. In a recent study, Evans-Lacko, Brohan, Mojtabai and Thornicroft (2012) examined this relationship in 14 European countries among 1,835 individuals with mental illness. They found lower rates of self-stigma in those living in countries with lower stigmatizing attitudes, higher perceived access to information, and higher rates of treatment utilization, and participants living in countries rated as being more comfortable with mental illness demonstrated lower self-stigma and higher empowerment. This study demonstrates a connection between
community and public attitudes towards mental illness and internalized stigma with potential implications for public policy, and further research is needed on the relationship between community attitudes and self-stigma in a more immediate context.

7. Community Integration

Community integration is considered an important component for recovery of individuals with severe mental illness (Bromley et al., 2013; Kaplan, Salzer, & Brusilovskiy, 2012; Pahwa et al., 2014). Wong and Solomon (2002) describe a multidimensional model of community integration that includes such factors as physical, psychological, social, and individual characteristics. Physical factors relevant for community integration include housing and social neighborhood characteristics within the immediate environment. Psychological characteristics include availability of services and training for skills needed to live independently in the community. Social characteristics refer to supportive relationships, and individual characteristics include demographic, psychiatric, and personal factors, such as housing and neighborhood preferences. Ware, Hopper, Tugenberg, Dickey, and Fisher (2007) elaborated on this definition with the inclusion of citizenship as an important component of community integration. Using qualitative analysis of interviews with individuals with psychiatric disabilities, they describe social integration as a process in which individuals develop connection and citizenship within their communities. They describe connectedness as forming and maintaining satisfying interpersonal relationships, and citizenship as the “rights and privileges enjoyed by members of a democratic society…and the responsibilities these rights engender” (p. 471).

Bromley et al. (2013) discussed the utility of community integration as a “normalization” process for individuals with mental illnesses to function in the same role as those without mental illnesses in the community. They obtained qualitative interviews from 30 participants with
mental illnesses attending intensive and usual care outpatient treatment programs in Los Angeles County and found participants identified family and treatment clinics as community. Four factors were identified as being present within a community including receiving help, minimizing risk, avoiding stigma, and giving back. Participants “described communities as enclaves they construct to avoid rejection,” (p. 677) and reported experiences in the community as having impact upon personal identity and self-esteem.

In light of the previously discussed literature on community stigma and rejection of mental illness, the importance of public attitudes should also be considered in regards to their effect upon community integration. A study by Prince and Prince (2002) provided support for the relationship between stigmatizing attitudes and community integration in that a greater perception of stigma was associated with a decreased sense of belonging in the community. Mueller et al. (2006) used a longitudinal design to examine stigma and social ties in 165 patients with severe mental illness with structured interviews during hospitalization and one year later. They found levels of social support significantly positively predicted perceived stigmatization in follow-up for those with more recent onset of illness, suggesting that perceived stigma is directly related to perceived social support in the first years of living with a mental illness diagnosis.

In another study examining experiences of community integration by individuals with mental illnesses, Bradshaw, Armour and Roseborough (2007) examined the experience of recovery in 45 adults diagnosed with severe and persistent mental illness (SPMI) from assertive community treatment (ACT) and intensive case management (ICM) services using semi-structured interviews in participants’ third year of community living. Most participants reported difficulty with social integration into the community, including establishing new ties and
reestablishing old ties in previous communities. Participants also reported desire to be “normal” and distance themselves from mental illness stigma.

**Psychological Sense of Community**

Psychological sense of community (PSOC) was first discussed by Sarason (1974) as a sense of belonging to a “greater collectivity” and serving a role within a community. According to Sarason, the absence of PSOC would lead to psychological distress including loneliness, alienation, and feelings of powerlessness. Townley and Kloos (2011) sought to apply the concept to individuals with mental illness living in the community by conducting interviews with 402 participants from South Carolina with SMI living in supported housing and found more than half of participants associated a high level of importance to feeling a sense of community within neighborhoods. Specific factors related to sense of community included neighbor relations, neighborhood tolerance for mental illness, neighborhood safety, neighborhood satisfaction, and housing site type.

Yanos, Felton, Tsemberis, and Frye (2007) described a “locus of meaningful activity” as an important factor within community integration. Locus of meaningful activity refers to the primary reported location of an individual’s most personally meaningful activities in the community. In their study, Yanos et al. (2007) found participants with a locus of meaningful activity oriented towards buildings and employment and neighborhood reported a higher sense of community and had significantly greater neighborhood interaction ratings than those who reported no meaningful activity. Perceived social cohesion of neighborhoods also was strongly related to participants’ psychological integration. In another study, Yanos, Stefancic and Tsemberis (2012) found individuals with mental health diagnoses living in supported housing to score significantly lower on measures of objective community integration compared with
community residents without mental illnesses. Psychiatric factors were not found to account for the difference, while African-American race, education, and length of time at current residence were related with higher community integration. However, when examining psychological community reintegration and sense of community, in an additional study the researchers found no differences between individuals with mental illness living in supported housing and community residents without mental illness (Yanos et al., 2011), with global differences accounted for by perceived neighborhood characteristics. More recently, Aubry, Flynn, Virley, and Neri (2013) examined how the use of social role valorization (SRV) within mental health housing facilities can facilitate community integration of individuals with psychiatric disabilities. They described SRV as a method to “create social roles for devalued populations that enhance their image and personal competencies” (p. 219), and found mental health housing that facilitated autonomy, independent living skills, and individuation promoted psychological integration, which then facilitated life satisfaction of individuals with psychiatric disabilities.

**Neighborhood Characteristics**

An additional important consideration in achieving community integration is the nature of the community itself. Byrne et al. (2013) compared characteristics of neighborhoods in which a sample of 15,246 adults with severe mental illness resided and those of the general population in Philadelphia over a three year time period. They found higher levels of structural inadequacy, drug-related activity, and crime for neighborhoods in which individuals with SMI resided. Within neighborhoods, these factors combined with social instability and social isolation were related to higher concentration of adults with SMI. In light of such findings, the authors argued more attention needs to be paid to neighborhood characteristics and potential barriers to community integration and functioning of individuals with SMI.
In a seminal paper, Segal, Baumohl, and Moyles (1980) examined the relationship between community characteristics and social integration of formerly institutionalized mental health patients. They used data from California sheltered-care facilities and census tracts of their locations in order to examine the immediate environment of included facilities and found liberal, nontraditional neighborhoods were closest to the “ideal” accepting community, while conservative, middle-class neighborhoods were found to have a negative impact on social integration. They argued that community context holds importance for development of attitudes towards, services for, and social life of individuals with mental illness.

Yanos, Stefancic, and Tsemberis (2012) sought to identify potential predictors of community integration for individuals with severe mental illness living in supported housing. They found individual factors including African-American race, education, and longer amount of time at current residence were related with higher community integration.

In an additional study of individuals with psychiatric disabilities living in scatter-site housing, Yanos, Stefanic, and Tsemberis (2011) found neighborhood characteristics including perceived quality of the neighborhood, perceived social capital, perceived community efficacy, neighborhood disadvantage, and neighborhood immigrant concentration were associated with reported sense of community.

Kloos and Townley (2011) examined the relationship between perceptions of neighborhood social climate and psychological well-being in 525 residents of supported housing program receiving mental health treatment in South Carolina. They found neighbor relations, perceptions of safety, and neighborhood satisfaction to be significantly associated with perceived social climate, which accounted for significant variance in psychological distress. Reported neighborhood experiences were significantly related to psychiatric distress, and this relationship
was mediated by perceptions of neighborhood social climate. An additional study by Townley, Miller, and Kloos (2013) examined the relationship between community support, community integration, and recovery in 300 individuals receiving mental health treatment using qualitative analysis. Participants reported primarily receiving tangible support such as discounted goods and medication from community supports instead of emotional or informational support, and findings also suggested community support predicts community integration and recovery regardless of traditional supports such as family or friends.

Community Members

Research has also examined stigma and community integration from the perspective of community members themselves. In an examination of community member attitudes towards mental health housing, Aubry, Tefft, and Currie (1995) found community members expressed less positive feedback about individuals in congregate psychiatric housing compared with individual housing units, and reported more negative beliefs about individuals with higher severity of disability. More recently, Flanagan and Davidson (2009) sought to identify features that prevent individuals with mental illness from integrating into the community. Participants included two clergy members, three landlords, seven shop workers, one policeman, and two homeless shelter aides in an urban northeastern city, and were interviewed about previous interactions with individuals with mental illness including what made them think they had a mental illness, and attitudes towards persons with mental illness. Participants identified several themes of factors they believed to indicate mental illness: talking to themselves, unusual social interactions including “difficult to talk to,” and being “isolated,” making “bizarre” statements, unusual dress, intense mood, and delusions. When asked how persons with mental illness make them feel, participants reported feeling compassion and “trying to treat like anyone else,” in
addition to nervous and fearful of potential violence. Some participants also reported feeling “annoyed” that individuals they believed to have mental illness were bothering them.

Feldman and Crandall (2007) sought to determine specific factors related to stigmatizing attitudes of community members towards mental illness. They presented 270 student participants with vignettes of individuals with 40 different mental disorders and instructed them to rate vignettes on 17 dimensions including dangerousness to others, treatability of the disorder, and potential social disruptiveness in addition to indicating desire for social distance. Results yielded a ranking of disorders from most to least rejected based upon ratings of social distance. They found individuals were most likely to be rejected based upon three rating dimensions: “personal responsibility, dangerousness, and rarity” (p. 147).

In a recent study, Ardila-Gomez et al. (2014) administered questionnaires to 120 community members living in proximity of a psychiatric group home and 120 “control” community members not in close proximity. Community members who reported high acceptance towards individuals with mental illness were also likely to perceive a higher amount of social cohesion within their community. There was also a significant association between being a resident in proximity of the group home and degree of acceptance towards individuals with mental illness. However, only 25.8% of participants were aware that neighbors had been patients in a psychiatric hospital, and negative attitudes were mainly regarding drug consumption.

Zippay (2007) discussed the debate regarding informing neighbors of established shared and supervised housing for individuals with mental illness. Advocates argue notification facilitates education and integration, while opponents argue notification violates individuals’ privacy and propagates community stigma. Researchers conducted telephone interviews with 169 mental health administrators across seven states regarding notification and neighborhood
responses to established residences. Organizations who notified neighbors were significantly more likely to obtain initial opposition, but were also more likely to initiate community activities including open houses. No relationship was found between current neighborhood attitudes and initial notification or opposition.

Tsang et al. (2007) interviewed 100 employers from Chicago (N=40), Hong Kong (N=30), and Beijing (N=30). Chinese employers were significantly more likely to perceive persons with mental illnesses as having weaker work ethics and loyalty; Chinese employers were also more people-oriented while US employers were more task-oriented. For potential employees with psychotic disorder, at least a quarter of participants reported concern for safety of other employees and customers, productivity/job performance, unpredictable behavior, and potential for relapse.

8. Limitations of Current Research

The existing conceptualizations of stigma purport that individuals learn about negative attitudes through a process of social and cultural exposure to such negative stereotypes. Additionally, self-stigma is conceptualized to occur as a result of applying learned stereotypes and negative attitudes to the self, with the stereotyped identity replacing all other identities with which the individual may have previously identified. However, a limitation arises to such theories as they are derived from research of rejection experiences using only self-reported perceptions of individuals who identify with the targeted group. Since only perceived rejection experiences have been examined, it follows that available theories assume perceptions of rejection to be the same construct as actual experiences of rejection. Currently, there exists no research connecting target perceptions of rejection associated with mental illness stigma with intended social rejection among persons that people with mental illness come into contact with.
An additional gap in the existing literature is the lack of understanding of individual differences in stigma. For instance, how do some community members come to develop increased stigmatizing attitudes towards mental illness as compared with those with low stigmatizing attitudes? Following the existing literature regarding community integration, do attitudes vary by the type of community, and if so, how do these impact experiences of those with mental illness living in those areas? These are questions that have yet to be answered within the current theoretical literature, and comprise a dearth of understanding regarding stigma processes and mental illness.

Further examination of the experiences of “targets” and “perpetrators” of stigmatizing behavior will help develop further understanding into the process of mental illness stigma that goes beyond perceived experiences and more closely describes interpersonal exchange within the community. Additionally, the recent shift in microaggressions literature to mental illness can allow us to gain a more nuanced picture of stigmatizing experiences for target individuals and perpetrators who are often well meaning and situated within relationships of trust. By observing and describing stigmatizing and rejection experiences between community members with and without mental illness, we will be better equipped to identify optimal environments for decreasing stigma and promoting community integration in recovery.

9. The Present Study

The present study seeks to contribute to the existing literature on mental illness stigmatization by examining the link between perceived experiences of subtle forms of stigma in local communities in which people with mental illness reside and the attitudes and behaviors of local community members. Additionally, it seeks to add to the existing literature regarding predictors of stigmatizing attitudes, behaviors and experiences by examining the association
between neighborhood characteristics such as social disadvantage, demographic characteristics, and crime rate and stigma. Finally, we provide an examination the link between both perceived and community-member stigma and measures of community participation among people with mental illness.

The project seeks to answer the following research questions: 1) Is there a relationship between subtle stigmatizing experiences (microaggressions) perceived by persons with psychiatric disabilities and the self-reported attitudes and behaviors by community members?; 2) Does this relationship vary as a function of neighborhood disadvantage?; 3) Is the degree of local community member stigma, including attitudes and behavior, related to the community participation of people with psychiatric disabilities living in those communities?; and 4) Is the degree of perceived local community member microaggression behavior related to the community participation of people with psychiatric disabilities? Corresponding hypotheses to be evaluated include the following: 1) There will be a significant, positive relationship between reported microaggressions, negative attitudes and behaviors of community members towards persons with mental illness, and perceived stigma by persons with mental illness. This relationship is expected to differ based upon neighborhood; 2) Higher amounts of stigma and microaggression behavior will be perpetrated and perceived in areas with higher neighborhood disadvantage; 3) Individuals with psychiatric disabilities residing in neighborhoods with low amounts of perpetrated microaggression behavior will demonstrate higher amounts of community participation; and 4) Controlling for psychiatric symptom severity, participants with mental illness who perceive a high amount of stigmatizing experiences, will also score lower on measures of community integration.
10. Method

Study Context

Data were drawn from a larger study examining personal capacity, housing and neighborhood predictors of community participation among individuals with psychiatric disabilities. The original project was supported with funds from the National Institute on Disability and Rehabilitation Research.

Participants

Participants were recruited from two samples and included 608 community member participants and 343 participants with mental health diagnoses. All participants were recruited from 3 community sites in the New York City metropolitan area: East/Central Harlem in Manhattan, Crown Heights/East Flatbush in Brooklyn, and Yonkers and Mount Vernon in Southern Westchester. These sites were chosen because they all have high concentrations of people with mental illness living in independent scatter-site and congregate housing, and because they represent a range of socioeconomic characteristics. Data from the 2010 Census suggest differences in median income across the selected areas; East/Central Harlem ranged from $24-37,000, Crown Heights/East Flatbush from $28-43,000, and Yonkers and Mt. Vernon median income was $59,195 and $49,328, respectively.

Community member participants. Within each site, approximately 200 community members were surveyed. Specific areas to be surveyed were first targeted by identifying specific census tracts within the three chosen community sites where individuals with psychiatric disabilities reside. Eligibility criteria included being 18 years or older, speaking English well enough to complete interviews, and living or working within the targeted census tracts.
Participants were compensated $10 for completing the survey, which lasted approximately 5-10 minutes.

**Participants with mental health diagnoses.** Within each site, 50-60 participants were recruited from two types of housing: supported independent housing and congregate housing that includes on-site support. Independent housing participants were primarily recruited from Pathways to Housing, an agency that provided housing, Assertive Community Treatment and apartment treatment services to formerly homeless adults with severe mental illnesses. Congregate housing participants were recruited from Office of Mental Health licensed ACT, outpatient and housing programs in the targeted community sites. Eligibility criteria included speaking English, having a mental health diagnosis, living in one of the three targeted areas and in supported independent or congregate housing. Participants were compensated $30 for completing the interview, which lasted approximately 1-1.5 hours.

**Community Survey Measures**

**Demographics questionnaire.** Participants completed a brief demographics questionnaire including information about their age, gender, race/ethnicity, education, the zip code in which they reside, and information about whether they live or work in a business within the targeted areas.

**Attitudes about Mental Illness Scale (Kobau, Dilorio, Chapman, & Delvecchio, 2010).** The AMIS was used to assess community member stigmatizing attitudes towards mental illness. The measure consists of 11 items scored on a 1-5 point Likert scale, with higher overall scores indicating a higher amount of stigmatizing attitudes. It consists of two factors, Negative Stereotypes (Cronbach’s alpha = .66) and Recovery and Outcomes (Cronbach’s alpha = 0.69). It has demonstrated acceptable internal consistency in the original sample of 5,251 United States
participants (Kobau et al., 2010) in addition to a preliminary study with New York State residents (Gonzales et al., In Press). Items include negative statements such as “I believe a person with a 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.” The measure demonstrated adequate internal consistency in our sample, with a Cronbach’s alpha of 0.60.

**Reported and Intended Behavior Scales (RIBS; Evans-Lacko, Rose, Little, Flach, Rhydderch, Henderson, & Thornicroft, 2011).** The RIBS is an 8-item measure including past, current, and future interactions with individuals who have a mental illness. The first four items include information about past or current behaviors and are scaled using a “yes,” “no,” or “don’t know” format (e.g., “Are you currently living with, or have you ever lived with, someone with a mental health problem?”). The last four items include information about future, intended behavior and use a 1-5 point Likert scale ranging from “agree strongly” to “disagree strongly” (e.g., “In the future, I would be willing to live with someone with a mental health problem.”) The measure has been found to have strong psychometric properties (Evans-Lacko et al., 2011) and demonstrated adequate internal consistency in our sample (Cronbach’s alpha = 0.74).

**Mental Illness Microaggressions Scale – Perpetrator Version (MIMS-P; Gonzales, Davidoff, DeLuca, & Yanos, 2015).** The MIMS-P is a 14-item scale that assesses microaggression experiences perpetrated towards persons with mental illnesses. Each statement is rated on a 1-4 Likert scale from “strongly disagree” to “strongly agree,” with higher scores demonstrating higher amounts of microaggression behavior. It consists of three factors: Assumption of Inability (alpha = 0.80), Patronization (alpha = 0.78), and Fear of Mental Illness (alpha = 0.64). It demonstrated good psychometric properties in the original sample (Gonzales et
al., 2015). Items include such statements as “If someone I’m close to told me that they had a mental illness diagnosis, I would expect them to have trouble understanding some things,” and “If I saw a person who I thought had a mental illness in public, I would be careful in case they ‘snap.’” The MIMS-P demonstrated high internal consistency in our sample (Cronbach’s alpha = 0.85).

Psychiatric Survey Measures

Demographics questionnaire. Participants completed a brief demographics questionnaire including information about their age, gender, race/ethnicity, substance abuse history, homelessness history, the length of time spent in the census tract of residence, age at first hospitalization, and number of previous hospitalizations. Additionally, psychiatric diagnosis was confirmed from information from the “face sheet” in their medical chart (participants provided consent to view charts in informed consent). Type of psychiatric services received were also coded based upon participants’ recruitment location, and confirmed with self-report information. Services were coded as “day treatment,” “outpatient treatment,” or “ACT.”

Housing category. Housing category was coded by first identifying participants’ specific residence and then assessing its housing categorization based upon NYSOMH housing categories (Center for Urban Community Services, 2012). Residences were coded as independent scatter-site housing or congregate housing. “Supported housing” was coded as scatter-site housing and “supervised community residence,” “congregate support,” “MICA community residence,” “congregate treatment,” “residence for adults,” “adult home,” “community residence/SRO,” was coded as congregate housing. Those living in “apartment treatment” were not considered eligible to participate in the study, as this type of housing is not considered to be congregate or independent housing.
Neighborhood location. Participants provided self-reported street address or cross-streets of their current residence, which was then used to determine census tract. Census tract data was drawn from the 2010 census data and combined to form composite variables.

Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962). The BPRS is an interview-based rating scale used by clinicians to assess 24 different mental health symptoms including anxiety, depression, grandiosity, suspiciousness, and hallucinations. Items are rated on a Likert scale of 1-7 with 1 = not present and 7 = extremely severe. The scale has demonstrated good psychometric properties including internal consistency and is widely used in psychiatric research. We used a subscale scoring approach following Mueser, Curran, and McHugo (1997). It demonstrated good internal consistency for our sample (Cronbach’s alpha = 0.75).

Microaggressions scale. A total of 5 items were developed following validation of the MIMS-P to be administered to participants with mental illness in the present study. Items are intended to assess perceived microaggression behavior experienced, and are scored on a 1-4 Likert scale with higher scores indicating higher amount of perceived microaggression experiences from community members. The scale includes such items as “when I am in public, other community members avoid being physically close to me because of my mental illness,” “members of my community assume I cannot work because of my mental illness,” and “members of my community are less friendly towards me after learning of my mental illness.” The items demonstrated good internal consistency for our sample (Cronbach’s alpha = 0.83).

External Integration Scale (Segal & Aviram, 1978). The EIS is a 12-item, self-report measure of physical community integration. Respondents are asked to report involvement in a variety of activities outside the home in the past month, including going to a movie, religious services, or common recreational activities such as walking in a park. The scale has
demonstrated good internal consistency with Cronbach’s alpha of 0.73 for individuals with psychiatric disabilities (Aubrey & Myner, 1996), and maintained a Cronbach’s alpha of 0.59.

**Social community integration.** A 12-item scale developed by Aubry and Myner (1996) was included in the present study to assess social community integration of participants with psychiatric disabilities. The scale measures frequency of interactions between respondents and community members (e.g., borrowing/lending items, going on social outings). The internal consistency of the scale in our sample was determined to be adequate (Cronbach’s alpha = 0.85).

**Social Capital Short Form (Putnam, 2002).** The SCSF was used in the present study to measure amount of participant civic engagement in the community. The measure assesses respondent involvement in activities associated with “citizenship” including voting, volunteering, and political activism. It has been found to have adequate internal consistency in a previous study with Cronbach’s alpha = 0.65 (Yanos et al., 2011). In our sample, it demonstrated low internal consistency (Cronbach’s alpha = 0.23), but this was determined to be due to a low number of participants endorsing any engagement in item activities; responses for the scale were dichotomized to be included in analyses.

**Quality of Life Scale (QLS; Heinrichs, Hanlon, & Carpenter, 1984).** The QLS is a 21-item semi-structured interview that assesses social functioning. Life activities including sense of purpose, interpersonal relations, roles (employment, education), and community participation are rated on a Likert scale from 0-7 with higher scores indicating less impairment in social functioning. For use in this study, we will include the three factors “Interpersonal Relations,” (frequency of recent social contact) “Instrumental Functioning,” (vocational functioning) and “Common Objects and Activities” (participation in societal activities including reading the newspaper and using public transportation alone). Previous research has found high inter-rater
reliability for these three factors ranging from 0.85 to 0.93. Internal consistency in our sample was adequate, with a Cronbach’s alpha of 0.87.

**Procedure**

**Community member sample.** Participants within targeted neighborhoods were recruited by trained research assistants. Assistants handed out flyers in public locations including transportation stations, shopping and commercial areas. Additionally, local storeowners and employees were targeted who might have a high level of interaction in areas where individuals with psychiatric disabilities reside. Surveys were conducted as participants are recruited; for those unable to complete interviews “on the spot,” researchers provided them with contact information allowing them to complete at a later time. After informed consent was obtained, participants completed a packet including the demographics questionnaire, AMIS, and RIBS, which was administered either verbally with the research assistant or independently. Interviews took approximately 5-10 minutes to complete, for which participants were compensated $10.

**Psychiatric disability sample.** For supported independent housing participants, treatment team members distributed flyers to potential participants who met eligibility criteria, and additional flyers were posted and distributed in waiting areas by study team members. For congregate housing participants, treatment programs were first invited to participate in the study, and local IRB approval was obtained if needed prior to recruitment. A total of 8 housing programs providing both congregate and scatter-site services participated in the study and allowed the research team to recruit directly from their program sites. In addition, recruitment was also conducted at 4 OMH outpatient clinics (one in Mt. Vernon, one in Yonkers, one in Central Harlem, and one in Brooklyn) serving residents of the 3 areas. After receiving site and
IRB approval, participants were then recruited via announcements at community meetings and lunch, and flyers were distributed by treatment staff and posted in public areas.

Individuals expressing interest in the study were first screened for eligibility criteria by research staff. Informed consent was then obtained, which also included participant permission to review the clinical “face sheet” in their chart to confirm psychiatric diagnosis. Then, interviews were conducted in private locations lasting approximately 1 to 1.5 hours. The interviews were administered verbally by trained research assistants or completed individually with researcher supervision, depending on participant preference.

11. Analyses

Descriptive statistics were first obtained and analyzed to evaluate assumptions for statistical tests, and univariate outliers were transformed to maintain normality of the sample. Data were gathered at the neighborhood level by linking participants to characteristics drawn from the 2010 Census. There were a large number of participants (14% of the community sample) for whom we did not have enough data to identify Census tract location, due to inaccuracy of reported cross streets or participant unwillingness to disclose home address. Because zip code level characteristics were available for all participants, neighborhood data were also gathered at the zip code level from the 2010 Census and included in analyses.

**Neighborhood Composite Variables.**

Neighborhood characteristics drawn from the 2010 Census were first analyzed using factor analysis to identify common factors and create composite variables. Exploratory factor analysis was employed for two sets of variables using principal components analysis. Variables were first divided into two sets for factor analysis to maximize sampling adequacy.
Set one. The first set of items included in factor analysis consisted of the following neighborhood variables for each zip code: unemployment rate, median income, percentage of families below poverty level, percentage high school graduates, percentage receiving public assistance, and percentage female-headed households. These are characteristics that have typically been used in previous research for indicators of neighborhood disadvantage (Joongbaeck, 2010; Krishan et al., 2014; Roosa et al., 2010; Silver, 2000). To determine factorability and ensure homogeneity of variance, the Kaiser-Meyer-Olkin measure of sampling adequacy (Kaiser, 1970; Meyers, Gamst, & Guarino, 2006) and Bartlett’s test of sphericity (Bartlett, 1950; Meyers, Gamst, & Guarino, 2006) were examined. The Kaiser-Meyer-Olkin measure of sampling adequacy was at the recommended value of .5, and Bartlett’s test of sphericity was significant, \( \chi^2(15) = 1748.96, p < .001 \). Due to low communality, unemployment rate was removed from the analysis. Communalities for all remaining items were above .6, indicating that individual items shared common variance with other items. Given these indicators, factor analysis was deemed appropriate. Principal components analysis with a direct oblimin rotation using Kaiser normalization was employed to determine the underlying structure of the data. The oblimin rotation was used based upon the premise that factors were expected to correlate. A cutoff of .6 (Field, 2005) was used to determine adequate factor loadings for each item. Initial eigenvalues of 2.03 and 1.82 explained 40.49 and 36.47% of the variance, respectively. A two-factor solution was determined following examination of the scree plot indicating leveling off after two factors with a negligible amount of variance explained by the remaining factors. The two factors were named: (1) Socioeconomic Disadvantage; and (2) Vocational Disadvantage. Factor loadings and communalities can be found in Table 1.
Set two. The second set of items included in factor analysis consisted of the following neighborhood variables: percentage of vacant housing units, residential stability (percentage of residents moving within the past five years), percentage foreign-born individuals, GINI index, population density by square mile, and conservative voting habits. The GINI index is a measure of unequal distribution of wealth; it ranges from 0-1, with higher numbers indicating more severe distribution. Vacant housing, residential stability, and percentage foreign-born individuals have also been used as indicators of neighborhood disadvantage in previous studies (Husted, 2000; Joongbaeck, 2010; Karriker-Jaffe, Roberts, & Bond, 2013; Krishan et al., 2014; Okulicz-Kozaryn, 2015; Roosa et al., 2010; Silver, 2000). Population density, conservative voting habits, and the GINI index were chosen based upon Segal et al.’s (1980) foundational work identifying such neighborhood variables as political affiliation and “family orientation” (e.g., high proportion of single-family units and absence of large apartment complexes) as predictors of interest. Conservative voting habits were also identified following previous research by Gonzales et al. (under review) with findings of conservative political ideals as an individual predictor of stigmatizing attitudes. All variables were taken from the 2010 Census at the zip code level except conservative voting habits, which was determined at the congressional district level by percentage of individuals in the district who voted from Romney in the 2012 election. The Kaiser-Meyer-Olkin measure of sampling adequacy was .65, above the recommended value of .5, and Bartlett’s test of sphericity was significant, $\chi^2(15) = 3029.15, p < .001$. Due to low communality, residential stability was removed from further analysis. Communalities for all remaining items were above .6, indicating that individual items shared common variance with other items. Given these indicators, factor analysis was deemed appropriate using the same procedure as employed for Set 1. Initial eigenvalues of 2.79 and 1.62 explained 55.84 and
32.36% of the variance, respectively. A two-factor solution was determined following examination of the scree plot leveling off after two factors. The factors were named: (1) Suburban Values; and (2) Income Inequality. Factor loadings and communalities can be found in Table 1. Information for neighborhood characteristics of each zip code can be found in Table 2.
Table 1

*Factor loadings and communalities for neighborhood composite variables*

<table>
<thead>
<tr>
<th></th>
<th>Socioeconomic Disadvantage</th>
<th>Vocational Disadvantage</th>
<th>Suburban Values</th>
<th>Income Inequality</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median income</td>
<td>-.85</td>
<td>.4</td>
<td>--</td>
<td>--</td>
<td>.85</td>
</tr>
<tr>
<td>Families below poverty level (%)</td>
<td>.10</td>
<td>.88</td>
<td>--</td>
<td>--</td>
<td>.78</td>
</tr>
<tr>
<td>High school graduates (%)</td>
<td>.04</td>
<td>-.91</td>
<td>--</td>
<td>--</td>
<td>.83</td>
</tr>
<tr>
<td>Families receiving public assistance (%)</td>
<td>.79</td>
<td>.26</td>
<td>--</td>
<td>--</td>
<td>.70</td>
</tr>
<tr>
<td>Female-headed households (%)</td>
<td>.82</td>
<td>.07</td>
<td>--</td>
<td>--</td>
<td>.68</td>
</tr>
<tr>
<td><strong>Set 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacant housing units (%)</td>
<td>--</td>
<td>--</td>
<td>.85</td>
<td>.31</td>
<td>.75</td>
</tr>
<tr>
<td>Foreign-born individuals (%)</td>
<td>--</td>
<td>--</td>
<td>-.16</td>
<td>-.97</td>
<td>.93</td>
</tr>
<tr>
<td>GINI index</td>
<td>--</td>
<td>--</td>
<td>-.27</td>
<td>.88</td>
<td>.90</td>
</tr>
<tr>
<td>Population density (per square mile)</td>
<td>--</td>
<td>--</td>
<td>-.93</td>
<td>.14</td>
<td>.91</td>
</tr>
<tr>
<td>Conservative voting habits (%)</td>
<td>--</td>
<td>--</td>
<td>.85</td>
<td>-.35</td>
<td>.92</td>
</tr>
<tr>
<td>Neighborhood characteristics at zip code level</td>
<td>NY County (N=109)</td>
<td>Westchester County (N=111)</td>
<td>Kings County (N=123)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------------------</td>
<td>-----------------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment (%)</td>
<td>4.1</td>
<td>7.5</td>
<td>9.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential stability (%)</td>
<td>51.2</td>
<td>52.4</td>
<td>50.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median income</td>
<td>43266</td>
<td>39375</td>
<td>41453</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Families below poverty level (%)</td>
<td>25.6</td>
<td>25</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school graduates (%)</td>
<td>81.9</td>
<td>73.7</td>
<td>77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Families receiving public assistance (%)</td>
<td>5.2</td>
<td>8.4</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female-headed household (%)</td>
<td>23.9</td>
<td>27.2</td>
<td>26.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacant housing units (%)</td>
<td>11.5</td>
<td>8.5</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>27.76</td>
<td>26.84</td>
<td>21</td>
<td>25.33</td>
<td>36.55</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>Foreign-born individuals (%)</strong></td>
<td>0.5854</td>
<td>0.608</td>
<td>0.5566</td>
<td>0.5584</td>
<td>0.4486</td>
</tr>
<tr>
<td><strong>GINI coefficient</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Population density</strong></td>
<td>68513.1</td>
<td>92116</td>
<td>96789.6</td>
<td>24329.1</td>
<td>18696.1</td>
</tr>
<tr>
<td><strong>Conservative voting habits (%)</strong></td>
<td>4.6</td>
<td>4.6</td>
<td>4.6</td>
<td>21.5</td>
<td>25.5</td>
</tr>
</tbody>
</table>
Level-2 Variance. Due to expected variation at the neighborhood level, hierarchical linear modeling was first employed to test hypotheses using SAS Version 9. For all hypotheses, an unconditional model was first estimated to examine intraclass correlations (ICC) for each predictor; ICCs provide the proportion of variance at level-2 (neighborhood) to the total variance of the model, and are used to assess whether HLM is necessary. Across hypotheses, ICCs ranged from .01 to .1; thus, the variance of stigmatizing attitudes and behaviors at the neighborhood (zip code) level accounted for between 1-10% of the total variance. This determined that there was not enough variance at the neighborhood level to continue with HLM, and the model was reduced to a linear regression analysis following confirmation of the assumption of linearity for each hypothesis. Table 3 provides mean scores on measures of stigmatizing attitudes and behaviors for each neighborhood (zip code level). The remaining analyses were conducted using SPSS Version 22.
Table 3
*Stigmatizing attitudes and behaviors by zip code*

<table>
<thead>
<tr>
<th></th>
<th>NY County (N=203)</th>
<th>Westchester County (N=209)</th>
<th>Kings County (N=197)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported and Intended Behaviors Scale (RIBS)</td>
<td>3.82 (N=46)</td>
<td>3.69 (N=65)</td>
<td>3.84 (N=31)</td>
</tr>
<tr>
<td></td>
<td>3.96 (N=52)</td>
<td>4.03 (N=66)</td>
<td>3.80 (N=54)</td>
</tr>
<tr>
<td></td>
<td>3.81 (N=53)</td>
<td>3.65 (N=66)</td>
<td>3.84 (N=62)</td>
</tr>
<tr>
<td></td>
<td>3.84 (N=52)</td>
<td></td>
<td>3.78 (N=62)</td>
</tr>
<tr>
<td>Attitudes towards Mental Illness Scale (AMIS)</td>
<td>2.36 (N=46)</td>
<td>2.35 (N=65)</td>
<td>2.35 (N=31)</td>
</tr>
<tr>
<td></td>
<td>2.21 (N=52)</td>
<td>2.24 (N=66)</td>
<td>2.58 (N=54)</td>
</tr>
<tr>
<td></td>
<td>2.35 (N=53)</td>
<td>2.53 (N=66)</td>
<td>2.46 (N=62)</td>
</tr>
<tr>
<td></td>
<td>2.42 (N=52)</td>
<td></td>
<td>2.43 (N=62)</td>
</tr>
<tr>
<td>Mental Illness Microaggressions Scale – Perpetrator Version (MIMS-P)</td>
<td>2.55 (N=46)</td>
<td>2.70 (N=65)</td>
<td>2.90 (N=31)</td>
</tr>
<tr>
<td></td>
<td>2.75 (N=52)</td>
<td>2.97 (N=66)</td>
<td>2.87 (N=54)</td>
</tr>
<tr>
<td></td>
<td>2.78 (N=53)</td>
<td>2.70 (N=66)</td>
<td>2.79 (N=62)</td>
</tr>
<tr>
<td></td>
<td>2.69 (N=52)</td>
<td></td>
<td>2.73 (N=62)</td>
</tr>
</tbody>
</table>

*Note.* Potential ranges and sample standard deviations for each scale are as follows: RIBS 1-5 (SD = 0.97); AMIS 1-5 (SD = 0.68); MIMS-P 1-4 (SD = 0.53).
12. Results

We first examined demographic characteristics for each sample (see Table 4). The two samples were relatively similar in regards to gender, race/ethnicity, age, and education. The community sample was slightly more homogenous in regards to gender, but this was not a statistically significant difference. For both samples, participants were more likely to be male and the majority identified as African American or Hispanic/Latino. Ages ranged from 19-75 years in the psychiatrically disabled sample and 18-90 years in the community sample. Education levels ranged from 0-28 years in the psychiatric disability sample and 0-24 years in the community sample. For the psychiatric disability sample, the most common primary chart diagnoses were schizophrenia and schizoaffective disorder, followed by mood disorders. Age at first hospitalization ranged from 5-77 years, and number of previous hospitalizations reported ranged from 0-98. Of note, one participant reported 200 prior hospitalizations; as this was considered a significant outlier (greater than 3 standard deviations from the mean), the case was removed from the calculated mean.

Table 5 provides demographic characteristics for each sample by county location, as well as those provided by the 2010 Census. Compared to the 2010 Census, our samples demonstrated a greater gender disparity with a greater proportion of participants identifying as male. The samples were generally representative of information from the 2010 Census in regards to race/ethnicity with the majority identifying as African American; however, our samples included a lower proportion of participants who identified as White or Hispanic/Latino compared with the Census rates for those selected areas. Additionally, our samples demonstrated higher median age on average compared to that of the 2010 Census for the selected areas.
Table 4
Sample characteristics

<table>
<thead>
<tr>
<th></th>
<th>Community (N=608)</th>
<th></th>
<th>Psychiatric disability (N=343)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>351</td>
<td>58.8</td>
<td>211</td>
<td>61.7</td>
</tr>
<tr>
<td>Female</td>
<td>246</td>
<td>41.2</td>
<td>129</td>
<td>37.7</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>348</td>
<td>58.6</td>
<td>197</td>
<td>57.6</td>
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<tr>
<td>Hispanic/Latino</td>
<td>110</td>
<td>18.5</td>
<td>42</td>
<td>12.3</td>
</tr>
<tr>
<td>White/European</td>
<td>59</td>
<td>9.9</td>
<td>43</td>
<td>12.6</td>
</tr>
<tr>
<td>American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian American</td>
<td>14</td>
<td>2.4</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Native American</td>
<td>7</td>
<td>1.2</td>
<td>5</td>
<td>1.5</td>
</tr>
<tr>
<td>Arab/Middle Eastern</td>
<td>4</td>
<td>0.7</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Other</td>
<td>52</td>
<td>8.8</td>
<td>53</td>
<td>15.5</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>--</td>
<td>--</td>
<td>95</td>
<td>37.4</td>
</tr>
<tr>
<td>Schizoaffective disorder</td>
<td>--</td>
<td>--</td>
<td>46</td>
<td>18.1</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>--</td>
<td>--</td>
<td>40</td>
<td>15.7</td>
</tr>
<tr>
<td>Major depressive disorder</td>
<td>--</td>
<td>--</td>
<td>36</td>
<td>14.2</td>
</tr>
<tr>
<td>Post-traumatic Stress Disorder</td>
<td>--</td>
<td>--</td>
<td>4</td>
<td>1.6</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>--</td>
<td>--</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Mean±SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>41.98±15.71</td>
<td></td>
<td>47.9±11.4</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>13.1±3.0</td>
<td></td>
<td>12.0±3.1</td>
<td></td>
</tr>
<tr>
<td>Age at first</td>
<td></td>
<td></td>
<td>24.6±12.3</td>
<td></td>
</tr>
<tr>
<td>hospitalization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of prior</td>
<td></td>
<td></td>
<td>10.3±15.7</td>
<td></td>
</tr>
<tr>
<td>hospitalizations</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Note. Percent (%) indicates the valid percent, not accounting for missing values.*
Table 5
Sample characteristics compared to the 2010 Census by zip code

<table>
<thead>
<tr>
<th></th>
<th>Census Zip Codes</th>
<th>Psychiatric Zip Codes</th>
<th>Community Zip Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NY County</td>
<td>Westchester County</td>
<td>Kings County</td>
</tr>
<tr>
<td>Gender (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47.1</td>
<td>46.8</td>
<td>44.2</td>
</tr>
<tr>
<td>Female</td>
<td>52.9</td>
<td>53.2</td>
<td>55.8</td>
</tr>
<tr>
<td>Race/Ethnicity (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>23.8</td>
<td>33.8</td>
<td>12.9</td>
</tr>
<tr>
<td>Black or African American Hispanic</td>
<td>46.0</td>
<td>37.9</td>
<td>75.9</td>
</tr>
<tr>
<td>Hispanic</td>
<td>35.8</td>
<td>38.1</td>
<td>12.8</td>
</tr>
<tr>
<td>Asian Indian and Alaska Native</td>
<td>0.4</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander</td>
<td>6.1</td>
<td>4.4</td>
<td>2.0</td>
</tr>
<tr>
<td>Other Median Age</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>19.2</td>
<td>19.6</td>
<td>7.3</td>
</tr>
<tr>
<td></td>
<td>33.2</td>
<td>34.0</td>
<td>33.4</td>
</tr>
<tr>
<td>Percent high school graduates</td>
<td>76.4</td>
<td>78.2</td>
<td>79.1</td>
</tr>
<tr>
<td>Mean years of education completed</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
H1: There will be a significant, positive relationship between reported microaggressions, negative attitudes and behaviors of community members towards persons with mental illness, and perceived stigma by persons with mental illness. This relationship is expected to differ based upon neighborhood.

This hypothesis was evaluated using multiple regression analysis after it was determined all statistical assumptions were met. Sample size was evaluated for analysis following Green’s (1991) recommended guidelines. Outliers were inspected at the univariate level by evaluating the Z score of the skewness statistic at .001 probability, or +/- 3.09. At the multivariate level, outliers were inspected by examining the Mahalanobis value significance at .001 probability. Multicollinearity was examined by evaluating the variance inflation factor and tolerance levels of variables as well as the condition index to ensure unique contributions of predictor variables to longevity. Autocorrelation was evaluated at 2.0 with the Durbin-Watson Statistic to ensure independence of errors. Predicted scores were compared to the residuals in a scatterplot to determine normality, linearity, and homoscedasticity within the sample.

Table 6 provides results from regression analyses. Overall, there was no statistically significant relationship between measures of community member-reported stigmatizing attitudes and behaviors towards mental illness and measures of perceived stigma by participants with mental illness in their community. Following examination of bivariate analyses, however, the variable “housing category” was identified as an additional potential covariate not previously hypothesized to relate to perceived stigma. With the addition of housing category as a covariate the overall model became significant. At the individual level, housing category was the only individual variable that significantly predicted perceived stigma, with participants with mental
illness living in congregate housing reporting perceiving statistically significantly higher levels of stigma in their community.

Table 6
*Predictors of perceived stigma*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Perceived Stigma</th>
<th>Perceived Stigma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$ $B$</td>
</tr>
<tr>
<td>Constant</td>
<td>1.381</td>
<td>0.014</td>
</tr>
<tr>
<td>Community member-reported stigmatizing attitudes</td>
<td>0.002</td>
<td>0.008</td>
</tr>
<tr>
<td>Community member-reported stigmatizing behaviors</td>
<td>-0.001</td>
<td>0.005</td>
</tr>
<tr>
<td>Housing type for participants with psychiatric disabilities</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>0.068</td>
<td></td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td></td>
<td>0.031</td>
</tr>
<tr>
<td>$\Delta F$</td>
<td></td>
<td>10.737</td>
</tr>
</tbody>
</table>

*Note. N = 343.  
*p < .05.  **p < .01.*

**H2: Higher amounts of stigma and microaggression behavior will be perpetrated and perceived in areas with higher neighborhood disadvantage.**

**Perpetrated stigma.** To evaluate this hypothesis, multiple multivariate regression analysis was employed after it was determined all statistical assumptions were met; results can be found in Table 7. Partial support was obtained for the first part of this hypothesis (that
neighborhood disadvantage would be associated with more perpetrated stigma), although there were some additional noteworthy findings. Within the community sample, the neighborhood-level variables socioeconomic disadvantage and residential stability demonstrated statistically significant positive relationships with measures of community member-reported stigmatizing attitudes and behaviors. Specifically, neighborhood socioeconomic disadvantage was significantly related to the total item score of the MIMS-P such that individuals living in areas with higher levels of socioeconomic disadvantage were more likely to endorse having perpetrated microaggression behaviors against someone with mental illness. Socioeconomic disadvantage was also significantly related to specific subscales of the MIMS-P, such that individuals in areas of higher disadvantage were more likely to endorse perpetrating microaggressions communicating assumption of inability and patronization towards someone with mental illness. Residential stability was significantly related to specific subscales of the AMIS and MIMS-P, such that individuals living in areas in which a higher proportion of individuals who moved into their residence within the past five years were more likely to endorse recovery-oriented attitudes towards mental illness ($\beta = .04, p < .05$), and were less likely to endorse perpetration of microaggression behaviors, including those communicating assumption of inability and patronization.

Although the composite neighborhood-level variables suburban values and income inequality were not statistically significant within the larger model across stigma measures, they were found to be statistically significant at the individual level for a number of outcomes. A significant negative relationship was found between income inequality and total scores on the AMIS, such that individuals living in areas with greater inequality were less likely to endorse holding negative attitudes towards mental illness. However, community members in these areas
were also less likely to endorse recovery-oriented attitudes towards mental illness. Individuals living in areas with higher amounts of suburban values were also less likely to endorse recovery-oriented attitudes, and were more likely to endorse perpetrating total microaggressions including those communicating patronization. Community members living in neighborhoods with higher amounts of vocational disadvantage were more likely to endorse holding recovery-oriented attitudes towards mental illness.
Table 7
*Neighborhood level predictors of perpetrated stigma*

<table>
<thead>
<tr>
<th>Variable</th>
<th>AMIS Total</th>
<th>AMIS Recovery</th>
<th>MIMS-P Total</th>
<th>MIMS-P Assumption of Inability</th>
<th>MIMS-P Patronization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Constant</td>
<td>1.77</td>
<td>0.58</td>
<td>3.04</td>
<td>0.32</td>
<td>0.74</td>
</tr>
<tr>
<td>SES disadv</td>
<td>-0.02</td>
<td>0.01</td>
<td>-1.67</td>
<td>-0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Vocational disadv</td>
<td>0.05</td>
<td>0.03</td>
<td>1.55</td>
<td>0.09*</td>
<td>0.04</td>
</tr>
<tr>
<td>Suburban values</td>
<td>-0.03</td>
<td>0.02</td>
<td>-1.44</td>
<td>-0.07*</td>
<td>0.03</td>
</tr>
<tr>
<td>Income inequal</td>
<td>-0.08*</td>
<td>0.04</td>
<td>-2.20</td>
<td>-0.11*</td>
<td>0.05</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.67</td>
<td>-0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Residential stability</td>
<td>0.01</td>
<td>0.01</td>
<td>1.10</td>
<td>0.04*</td>
<td>0.02</td>
</tr>
</tbody>
</table>

*Note. N = 609.*  
*p < .05. **p < .01.*
Relationships between neighborhood variables and stigmatizing attitudes and behaviors in the community sample were also examined including levels of contact reported by community members. Several items of the RIBS measure whether the individual has ever lived with, worked with, had a neighbor or close friend with a mental health problem. Previous research has provided support for prior contact with individuals with mental illness being related to lower levels of stigma (Barczyk, 2015; Boyd et al., 2010; Corrigan et al., 2001; Lally et al., 2013; Yang et al., 2012). For our sample, prior contact was significantly related to neighborhood variables unemployment ($r = 0.1, p < .05$), vocational disadvantage ($r = -0.1, p < .05$), and income inequality ($r = -0.1, p < .05$); however, effect sizes were small and significance might be the result of our large sample size. When prior contact was added to the overall model, it became the only significant predictor for stigmatizing attitudes ($F(4) = 3.41, p < .01, r^2 = .02$). For stigmatizing behaviors, both prior contact ($F(4) = 3.41, p < .01, r^2 = .02$) and suburban values ($F(4) = 3.19, p < .05, r^2 = .02$) remained significant in the overall model. Community members who reported not having ever worked with someone with a mental illness reported higher levels of stigmatizing attitudes ($\beta = .22, p < .01$) and behaviors ($\beta = .15, p < .01$) overall, including holding negative stereotypes ($\beta = .33, p < .01$), and more microaggression behaviors communicating assumption of inability ($\beta = .21, p < .01$) and fear of mental illness ($\beta = .13, p < .01$). Community members residing in areas with higher suburban values reported higher levels of microaggression behavior communicating patronization ($\beta = .04, p < .01$).

**Perceived stigma.** To evaluate the hypothesis that higher neighborhood disadvantage would be associated with more perceived stigma, multiple multivariate regression analysis was employed after it was determined all statistical assumptions were met; results can be found in Table 8. Within the psychiatric disability sample, there was no significant relationship between
neighborhood variables and levels of perceived stigmatizing behaviors. However, as with Hypothesis 1, the overall model became significant with the addition of housing type as a covariate. As previously discussed, housing category demonstrated a statistically significant relationship to perceived levels of stigma, with participants with mental illness living in congregate housing reporting statistically significantly higher levels of perceived stigma in their community. To explore whether there was an interaction between housing type and neighborhood factors in predicting perceived stigma, interactions were examined by creating product terms including housing category and each neighborhood predictor variable. To protect against multicollinearity, predictors and interaction terms were centered before inclusion in analysis. Variables demonstrating high multicollinearity after centering were then removed from the remaining analysis.

As can be seen in Table 8, significant interactions were noted between housing and vocational disadvantage, and housing and suburban values. For participants with mental illness living in scattered/independent housing, living in communities with higher levels of vocational disadvantage was related to the perception of more microaggressions from community members. For individuals in congregate housing, living in communities with higher levels of suburban values was positively related to of the perception of more microaggressions.
Table 8  
Neighborhood predictors of perceived stigma

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.43</td>
<td>0.25</td>
<td>--</td>
<td>1.60</td>
<td>0.34</td>
<td>--</td>
</tr>
<tr>
<td>Housing category</td>
<td>-0.08**</td>
<td>0.03</td>
<td>-0.18</td>
<td>-0.09</td>
<td>0.03</td>
<td>-0.19</td>
</tr>
<tr>
<td>Vocational disadvantage</td>
<td>-0.003</td>
<td>0.01</td>
<td>-0.04</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.20</td>
</tr>
<tr>
<td>Suburban values</td>
<td>-0.01</td>
<td>0.01</td>
<td>-0.08</td>
<td>0.00</td>
<td>0.01</td>
<td>0.07</td>
</tr>
<tr>
<td>Income inequality</td>
<td>0.00</td>
<td>0.01</td>
<td>0.04</td>
<td>0.00</td>
<td>0.02</td>
<td>0.09</td>
</tr>
<tr>
<td>Residential stability</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.00</td>
<td>-0.00</td>
<td>0.01</td>
<td>-0.11</td>
</tr>
<tr>
<td>Vocational disadv * housing</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.06*</td>
<td>0.03</td>
<td>0.28</td>
</tr>
<tr>
<td>Suburban values * housing</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-0.03*</td>
<td>0.02</td>
<td>-0.26</td>
</tr>
<tr>
<td>Income inequality * housing</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-0.03</td>
<td>0.03</td>
<td>-0.17</td>
</tr>
<tr>
<td>Residential stability * housing</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.01</td>
<td>0.01</td>
<td>0.19</td>
</tr>
</tbody>
</table>

\[ R^2 \]

\[ F \]

\[ \Delta R^2 \]

\[ \Delta F \]

Note. N = 343.  
*p < .05. **p < .01.
H3: Individuals with psychiatric disabilities residing in neighborhoods with low amounts of perpetrated microaggression behavior will demonstrate higher amounts of community participation.

To evaluate this hypothesis, community member reports of perpetrated microaggression behavior were first aggregated at the zip code level and then entered into multiple regression analyses with outcomes on measures of community participation within the psychiatric disability sample. Results can be found in Table 9.

Microaggressions. Overall, a statistically significant relationship was found in the overall model between microaggressions perpetrated by community members and levels of community participation in the psychiatric sample. At the individual level, a significant positive relationship was found between microaggressions and scores on the Instrumental Functioning subscale of the QLS, such that individuals living in areas with higher amounts of perpetrated microaggressions were more likely to report higher amounts of satisfaction with their performance in occupational roles. Significant positive relationships were also found between microaggression behavior and total scores on the External Integration Scale, with individuals living in areas with higher amounts of perpetrated microaggressions more likely to report higher levels of participation in social and recreational activities in their community.

Housing type. Following prior identification of housing type as a predictor of interest, we also examined potential covariation with microaggression behavior when examining community integration outcomes. Housing type was found to be statistically significant for the overall model. At the individual level, statistical significance was found for the QLS subscale Commonplace Objects and Activities such that individuals living in scattered, independent housing were more likely to report owning commonplace objects and participating in
commonplace activities within their community. Additionally, housing type was significantly related to scores on the External Integration Scale such that individuals living in independent housing reported higher levels of engagement in social and recreational activities within their community.

**Microaggressions and housing interaction.** An interaction between level of neighborhood microaggressions and housing type was found to be significant for the overall model, and at the individual level for several specific outcomes of community participation including the Instrumental Functioning and Intrapsychic Foundations subscale of the QLS, total Social Community Integration scale scores, scores on the SCI subscale Friends and Family, scores on the dichotomized Citizenship Scale, and External Integration Scale total scores. For individuals in congregate housing, living in areas with higher amounts of community microaggressions was positively statistically significantly related to amount of reported occupational role functioning, amount of motivation and sense of purpose, amount of participation in recreational activities in the community, social integration including with friends and family (see Figure 1), and participation in citizenship activities such as voting. For individuals in independent housing, living in areas with higher amounts of community microaggressions was negatively statistically significantly related to these community participation outcomes. As previously noted, vocational disadvantage was significantly associated with perpetrated stigma, so this is consistent with the interpretation that participants living in congregate housing showed higher community participation in more disadvantaged areas.
<table>
<thead>
<tr>
<th>Variable</th>
<th>QLS Instrumental Functioning</th>
<th>QLS Intrapsychic Foundations</th>
<th>QLS Objects and Activities</th>
<th>EIS</th>
<th>SCI Friends and Family</th>
<th>SCI Total</th>
<th>Citizenship Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.99</td>
<td>0.11</td>
<td>3.79</td>
<td>0.09</td>
<td>3.20</td>
<td>0.08</td>
<td>1.31</td>
</tr>
<tr>
<td>Microaggressions</td>
<td>0.11*</td>
<td>0.04</td>
<td>0.05</td>
<td>0.03</td>
<td>0.10</td>
<td>0.02</td>
<td>0.06*</td>
</tr>
<tr>
<td>Housing category</td>
<td>0.14</td>
<td>0.16</td>
<td>-0.15</td>
<td>0.13</td>
<td>0.54**</td>
<td>0.12</td>
<td>0.22*</td>
</tr>
<tr>
<td>Microaggressions * housing</td>
<td>-0.20*</td>
<td>0.06</td>
<td>-0.13*</td>
<td>0.05</td>
<td>-0.07</td>
<td>0.04</td>
<td>-0.12*</td>
</tr>
</tbody>
</table>
Figure 1. Relationship between levels of community member reported microaggressions and psychiatric participant total scores for the Social Community Integration scale by housing type.
H4: Controlling for psychiatric symptom severity, participants with mental illness who perceive a high amount of stigmatizing experiences, will also score lower on measures of community integration.

To evaluate this hypothesis, multiple regression analysis was employed after it was determined all statistical assumptions were met. Results can be found in Table 10. As can be seen in Table 9, there was partial support for this hypothesis. Statistically significant relationships were found between levels of community integration and perceived stigmatizing experiences and scores on BPRS subscale measuring negative symptoms of psychotic disorders. At the individual level, levels of perceived microaggressions were significantly related to several measures of community integration including QLS Interpersonal Relationships, Intrapsychic Foundations, and Commonplace Objects and Activities, even when controlling for symptom severity. Individuals with mental illness who perceived higher levels of microaggressions in their community were less likely to report having quality of interpersonal relationships, reported having lower levels of motivation and sense of purpose, and were less likely to report owning commonplace objects in the home or participating in common social activities. A marginally significant relationship was also found between perceived microaggressions and scores on the SCI Friends and Family subscale such that individuals who perceived higher levels of microaggressions were less likely to report integration with friends and family. Scores on the BPRS Negative Symptoms subscale were statistically significantly related to QLS Interpersonal Relationships, Instrumental Functioning, Intrapsychic Foundations, Commonplace Objects and Activities, the External Integration Scale Total score, and Citizenship Scale total score. Participants with mental illness who demonstrated higher amounts of negative symptoms were less likely report having quality of interpersonal relationships, reported having lower levels of
motivation and sense of purpose, and reported spending less time engaging in activities outside of the home and with others in the community. A marginally significant relationship was also found between negative symptoms and scores on the SCI Friends and Family subscale such that individuals with more negative symptoms were less likely to report integration with friends and family.
Table 10

*Individual predictors of community participation*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Community Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>QLS Interpersonal</td>
</tr>
<tr>
<td></td>
<td>Relationships</td>
</tr>
<tr>
<td></td>
<td>( B )</td>
</tr>
<tr>
<td>Constant</td>
<td>3.93</td>
</tr>
<tr>
<td>Perceived micro-aggressions</td>
<td>-1.2**</td>
</tr>
<tr>
<td>Negative symptoms</td>
<td>3.86**</td>
</tr>
</tbody>
</table>

*Note.* \( N = 343. \)

\*\*p < .05. **p < .01.
13. Discussion

Findings provided partial support for study hypotheses, indicating that there is a complex relationship between neighborhood factors, housing, perceived stigma and community participation among individuals with psychiatric disabilities. Our findings suggest that the factors that impact the community participation of individuals with severe mental illness are multifaceted, and are best evaluated by a combination of both individual and neighborhood characteristics.

The hypothesized relationship between perceived stigma and community participation of individuals with psychiatric disabilities was supported by study findings. Perceived experiences of microaggressions in the community were significantly negatively related to community participation. Negative symptoms were also significantly negatively related to community participation, but did not negate the effects of perceived microaggression behavior. This suggests that community participation of individuals with mental illness living in housing treatment centers is influenced not only by negative symptoms such as social withdrawal and avolition, but also by individually perceived experiences of microaggressions perpetrated by others in the community.

Partial support was found for the hypothesized relationship between neighborhood-level characteristics and stigmatizing attitudes and behaviors in the community. Overall, neighborhood characteristics alone did not account for community member-reported stigma or stigma perceived by participants with psychiatric disabilities. For community members, prior reported contact with mental illness was the only significant predictor of stigmatizing attitudes, and this nullified hypothesized effects of measured neighborhood characteristics. This suggests that although neighborhood characteristics may be influential, whether someone has had previous
experience or engagement with mental illness is a much more powerful influence in the development of stigmatizing attitudes. When examining perpetrated microaggression behaviors, the hypothesized influence of neighborhood characteristics remained a significant predictor of stigmatizing behaviors even after accounting for prior contact with mental illness. Community members living in areas that were less dense with more housing vacancies and more conservative voting patterns (more suburban values) reported perpetrating higher levels of microaggression behavior towards individuals with mental illness.

For participants with psychiatric disabilities, housing type was the most influential predictor of perceived stigma levels, with an interaction also noted between housing type and neighborhood characteristics. In our sample, participants living in congregate housing reported higher levels of perceived stigma within their community overall. Those in congregate housing were more likely to perceive stigma in their community when living in less dense neighborhoods with more conservative voting patterns, and those in independent housing perceived more stigma when living in neighborhoods with higher levels of vocational disadvantage. One potential explanation for perceived stigma by those in congregate housing could be neighborhood “not in my backyard” (NIMBY) attitudes regarding community based housing. In an examination of neighborhood views regarding community housing for mental illness, Zippay and Lee (2008) found more positive perceptions of community residences were associated with social welfare values and collective social responsibility, arguably more “liberal” values, while an additional study (Zippay, 2007) found concerns regarding property value as one factor related to opposition toward residences. Individuals in treatment residences located within more conservative, suburban areas may be more likely to interact with community members who are not supportive of community residences. Additionally, community members might be more likely to become
aware of an entire building used as a community residence compared with independent housing scattered across multiple buildings, which might explain the differential relationship for congregate and independent housing. Regarding the impact of vocational disadvantage for those living in independent housing, previous research has found poverty, lower education, and lower formal income to be related to stigmatizing attitudes towards mental illness (Gonzales, Chan, & Yanos, under review; Phelan & Link, 2004). Individuals living in independent housing in areas with these characteristics may be more likely to interact with others who have less knowledge about mental illness, or may feel “scapegoated” for neighborhood disadvantage.

Contrary to our hypothesis, no significant relationship was found between reported stigmatizing attitudes and behaviors of community members and perceived stigmatizing experiences of participants with psychiatric disabilities. However, findings for this hypothesis were limited by inclusion of community stigma at the zip code level. Due to limited accuracy of location for community members we included aggregate measures of stigma at the zip code level to evaluate this hypothesis instead of by 2010 Census tracts. This led to limited variability in the community sample on measures of stigma, as we included participants from only eleven zip codes. Thus, analyses attempted to predict variability across the entire psychiatric sample in perceived stigma using a sample of eleven aggregated stigma scores of the community sample.

Our lack of findings for these analyses thus should be interpreted with caution, as it does not necessarily mean a lack of relationship between stigmatizing attitudes and behaviors at the community level, and perceived stigma of individuals living in the community with mental illness.

Additionally, our hypothesis that participants residing in neighborhoods with lower perpetrated microaggressions would demonstrate higher community participation was not supported by the
findings, which actually indicated a contrary relationship for our sample among participants living in congregate housing. Participants with psychiatric disabilities living in neighborhoods with higher levels of community member reported microaggression behaviors reported higher levels of social engagement. Housing type was also influential in that participants living in congregate housing in areas with more microaggressions reported higher amounts of social engagement in their community. The nature of microaggressions often involves an unaware perpetrator and is experienced within close and seemingly supportive relationships. This might explain the relationship between microaggressions and social engagement in that individuals with higher levels of engagement are more likely to experience microaggressions within their relationships with other community members. Additionally, higher amounts of neighborhood-level disadvantage were associated with more community member-reported perpetrated microaggressions; for individuals with psychiatric disabilities living in congregate housing in such areas, they may encounter less opposition or awareness of their “psychiatric status” in the community and thus be more likely to engage with community members. This draws parallels to Perry’s (2011) described “paradox” in which those with mental illness who are more visible to others achieve close and supportive relationships, but also experience rejection as a result of such visibility. These findings also contrast to those of Evans-Lacko et al.’s (2012) that less community stigmatizing attitudes at the country level were associated with lower self-stigma. However, their study was conducted at a much broader level, whereas the present study focused upon attitudes of community members with which one might interact in their neighborhood. Following the assertion of modified labeling theory that individuals internalize societal ideas of mental illness, early socialization experiences that presumably exist at the country level may
weigh more heavily than recent neighborhood experiences in shaping perceived stigmatizing experiences.

Some of our findings were consistent with the current literature examining correlates and consequences of mental illness stigma. As was previously discussed, microaggressions can be considered a type of social rejection experienced by individuals with mental illness living in the community. Findings lend further support for negative consequences of microaggression behaviors, with those who perceive microaggressions in social interactions being less likely to build relationships or participate in activities within their community.

The strong relationship found between prior contact with mental illness and community member stigmatizing attitudes is also consistent with previous research findings indicating prior contact with mental illness, either personally or having friends or family members who have received treatment, is related to less negative attitudes and desired social distance (Barczyk, 2015; Boyd, Katz, Link, & Phelan, 2010; Corrigan, Edwards, Green, Diwan, & Penn, 2001; Lally et al., 2013; Yang et al., 2012). Neighborhood level influences for microaggression behaviors found in our study correspond to findings from previous research examining correlates of desired social distance and negative attitudes towards mental illness. That neighborhood variables indicating socioeconomic and vocational disadvantage were related to higher reported microaggression behavior is consistent with previous findings that lower income and socioeconomic status is related to more stigmatizing attitudes (Gonzales et al., under review; Phelan & Link, 2004). Additionally, the finding of suburban values to relate to more microaggression behavior of community members is consistent with previous studies that have identified suburban areas (Leviten-Reid, Johnson, & Miller, 2014) and conservative political affiliation (Segal, Baumohl, & Moyles, 1980; Watson, Corrigan, & Angell, 2005) to be related to
more stigmatizing attitudes and experiences. However, other studies have found higher income and urbanicity to be associated with higher stigma (Martin, Pescosolido, & Tuch, 2000). This may further suggest differential underlying processes exist for stigmatizing attitudes and microaggression behavior, in that microaggressions do not necessarily correlate with overtly negative attitudes towards mental illness.

The emergence of housing type as the strongest predictor of levels of perceived stigma is an especially interesting finding. Previous research has been mixed regarding which type of housing is most “ideal” for outcomes related to community participation. Some studies have indicated those living in independent, scattered housing report higher levels of integration into their community (Gulcur, Tsemberis, Stefancic, & Greenwood, 2007), more feelings of control over their environment (Aubry et al., 2015; Nelson, Aubry, & Lafrance, 2007; Nelson, Sylvestre, Aubry, George, & Trainor, 2007; Parkinson & Nelson, 2003; Tsemberis, Gulcur, & Nakae, 2004), and greater housing stability (Goering et al., 2012; Tsemberis, Gulcur, & Nakae, 2004). However, others have suggested individuals in independent housing feel isolated (Walker and Seasons, 2002) and that feelings of control are not necessarily related to measures of adaptation to the community including adjustment and social functioning (Nelson, Aubry, & Lafrance, 2007). Congregate housing may also provide benefits for some by promoting group identification, which has been found to relate to increased use of positive coping strategies (Crabtree et al., 2010). However, for others group identification may lead to internalization of stigmatizing attitudes, which has been found to relate to a number of negative outcomes relevant for community integration (Cavelti, Rusch, & Vauth, 2014; Livingston & Boyd, 2010; Maschiach-Ezenberg et al., 2013). The interaction found in our sample between neighborhood characteristics and housing type suggests perhaps the issue is not whether one type of housing
treatment is universally more beneficial, but that some neighborhoods may be more beneficial in promoting community integration for each type of housing model. Using our data as an example, neighborhoods that are best for congregate housing might be those characterized by more liberal attitudes towards social welfare and responsibility, in addition to more urban areas. Community members in areas such as these might be less likely to become aware of individual’s “status” living in congregate psychiatric housing, and upon gaining awareness may be less likely to hold negative attitudes towards such individuals. Additionally, if individuals living in scatter-site housing are interacting more with community members, and in light of our findings that socioeconomic disadvantage and income inequality are related to community member-perpetrated microaggressions and stigmatizing attitudes, independent housing might be better suited for areas with higher education, income, and employment rates.

The finding that participants with psychiatric disabilities living in areas with more perpetrated microaggressions reported by community members demonstrated higher levels of community participation was unexpected; however, findings also indicated that perpetrated microaggression behavior in the community does not necessarily correspond to those perceived by individuals with mental illness in those communities. One explanation for this disassociation could be that individuals with mental illness, as a result of having a diagnosis, may inherently expect to be rejected by community members. Thus, they will perceive experiences of rejection while interacting with others without a mental illness regardless of the nature of the interaction. In accordance with conclusions drawn by Rusch et al. (2009), this may also lead to the development of rejection sensitivity for future interactions and serve to further perpetuate perceived rejection experiences. In a seminal paper, Farina, Gliha, Boudreau, Allen, and Sherman (1971), found evidence for such a process when individuals receiving treatment for
mental health were judged by blinded confederates to be significantly more anxious and less “well-adjusted” than controls while completing a task. Participants with mental illness also demonstrated poorer task performance, rated the task as more difficult, and perceived confederates as “less appreciative” of their efforts compared with controls, leading the authors to conclude that “in an initial interaction with new people…former patients are better off if they believe those about them are unaware they once were patients,” (p. 4). This process would also correspond with Link et al.’s (1989) modified labeling theory in that individuals come to expect the community will exhibit devaluation and discrimination behaviors towards mental illness, along with previous research indicating individuals with mental illness expect a certain amount of rejection upon return to the community (Cechnicki, Angermeyer, & Bielanska, 2011). Finally, expectations and perceptions of stigmatizing behaviors would be consistent with Rusch et al.’s (2009) model of stigma-related stress, with their findings that higher perceived societal stigma and sensitivity to rejection were related to high levels of stigma-related stress independent of symptomatology.

For individuals living in congregate housing, community members may also be more likely to be aware of their “status” in mental health treatment than those living in scattered housing; this may be especially true in more suburban, less densely populated areas. In a qualitative study of individuals living in supported housing in a suburban community, Leviten-Reid, Johnson, and Miller (2014) found that although participants described several benefits of independent housing they also reported that experiences of stigma and rejection did not increase and that “living in a small community meant that their illnesses were more widely known,” (p. 63). More densely populated areas, in contrast, may provide a level of anonymity that makes disclosure of mental health status a choice of the individual.
There are several limitations of the present study to be addressed. First, neighborhoods surveyed included only three specific areas identified and results may not be generalizable to other urban or suburban areas. Additionally, the selected street-outreach recruitment approach may limit the generalizability of our sample in that surveyors may have missed some types of individuals; thus, included participants may not be wholly representative of the targeted communities. Due to limitations in accuracy of location in the community sample, we were unable to include neighborhood variables at the census tract level in our analyses, instead using characteristics at the zip code level; this limits potential variability between neighborhoods, as one zip code may contain several “communities” differing from one another for certain characteristics. Additionally, as previously mentioned in discussion of our first hypothesis, only eleven zip codes were included, which presents an important limitation for hypotheses examining potential differences based upon zip codes. We were also unable to include some neighborhood characteristics that may be relevant including crime rate, as we did not have enough information for participants to determine precinct and crime information was not publicly available for all areas surveyed. Within the psychiatric disability sample, psychotic disorders were overrepresented and thus results may not generalize to other psychiatric disorders. Our measure of perceived microaggression behavior in the psychiatric sample, although demonstrating good internal consistency, only consisted of five items and may be limited in measurement of the entire construct. Finally, use of survey methods may be subject to self-report bias or social desirability effects.

Future research should endeavor to further examine the disconnect between reported stigma by community members and perceived stigma experiences by individuals living in the community with mental illness. Additionally, further examination is needed of which
neighborhood types are most beneficial for congregate and independent supported housing in promoting recovery, as well as determination of which individuals will achieve optimal levels of integration and quality of life in each. Important implications of this study include the development of interventions that target specific neighborhoods in which stigmatizing behaviors are more prevalent, including those with low income, less population density, and more conservative political attitudes. Findings also hold implications for application in clinical settings when working with individuals with severe mental illness; specifically, when developing treatment plans and targeted interventions, findings suggest clinicians should take into consideration potential neighborhood-level influences upon perceived stigma and community participation. Perceptions of stigma are an additional important clinical consideration, given the support for a relationship between levels of perceived microaggressions and lower community participation.

Additionally, the finding that perceptions of subtle discrimination experienced by individuals with mental illness may not necessarily correspond to reported stigmatizing behavior by others holds strong implications for future research examining perceived stigmatizing experiences. Research has largely examined only perceived stigmatizing experiences and has found it holds important influence over outcomes related to recovery and community integration. However, our findings suggest that interventions to decrease community stigma may not necessarily lead to decreases in perception of stigma for those living with mental illness in the community. Future research should continue to evaluate the relationship between perceived and reported stigma in the community, with a shift in focus from individuals to interpersonal dyads and their processes and exchanges within the community. A more nuanced understanding of the types of social interactions that occur between individuals with mental illnesses and community
members will aid with the development of interventions for the decrease of stigmatizing attitudes and behaviors, in addition to optimization of housing treatment programs for individuals with mental illness returning to the community. Our finding that personal contact was the strongest predictor of stigmatizing attitudes for community members suggests that interventions should also emphasize and employ contact with individuals with mental illness as key for the decrease of stigmatizing attitudes. Finally, the significance of perceived microaggressions found in our study provide important implications for their existence at the community level in addition to their potentially negative consequences for community integration, and future research should continue to examine their frequency and consequences in additional contexts.
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