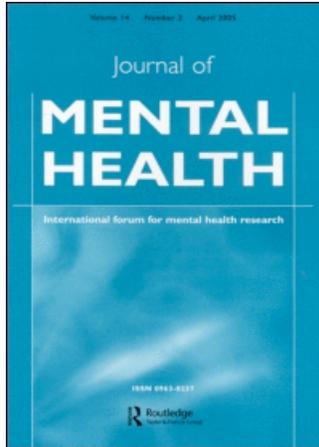


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Exploring the role of housing type, neighborhood characteristics, and lifestyle factors in the community integration of formerly homeless persons diagnosed with mental illness

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Abstract

Background: Little is still known about what community, individual and program factors contribute to the successful community integration of formerly homeless persons diagnosed with severe mental illness (SMI).

Aims: The goal of this study was to use blended quantitative and qualitative methods to examine the impact of housing type (independent apartments and congregate settings) and neighborhood characteristics on physical, social and psychological aspects of community integration in this population.

Method: Forty-four persons who had been stably housed for at least one year completed quantitative and qualitative assessments examining different aspects of community integration. Neighborhood structural variables were also examined using census data.

Results: Quantitative findings confirm that community integration is multidimensional, and that different aspects of housing and neighborhood influence different dimensions of community integration. The concept of “locus of meaningful activity” (a lifestyle characteristic) emerged as an important construct from qualitative analyses. Locus of meaningful activity was associated with greater psychological integration and was linked to housing type.

Conclusions: Findings offer direction for future studies seeking to understand the factors that influence the community integration of formerly homeless persons with SMI.

Declaration of interest: Two authors are affiliated with Pathways to Housing, which provides services to homeless persons with SMI.

Keywords: *Community services, community integration, severe mental illness, homeless persons*

Introduction

It is widely agreed that services for persons with severe mental illness (SMI) should aim to facilitate community integration (Carling, 1995; Wong & Solomon, 2002). Wong and Solomon (2002) recently described community integration for people with SMI as multidimensional, involving *physical, social* and *psychological* dimensions. The physical

dimension involves “the extent to which an individual . . . participates in activities, and uses goods and services in the community outside his/her home in a self-initiated manner”; the social dimension is closely related and consists of “the extent to which an individual engages in community interactions”; finally, the psychological aspect reflects the “extent to which an individual perceives membership in his/her community”.

Little is still known about what community, individual and program factors contribute to the successful community integration of persons diagnosed with SMI who have been homeless or long-term hospital residents (Wong & Solomon, 2002). Discussions of how to promote community integration have frequently focused on the possibly positive effects of supported independent housing, which offers individuals the opportunity to live in their own apartments with support services provided off-site (Carling, 1995). The justification for this view is that supported independent housing allows individuals to live in “normal” settings interspersed with general community members, and should maximize opportunities to take advantage of natural local supports and resources. Research exploring the impact of housing on outcomes for people with SMI has confirmed that residence in independent apartments is associated with greater satisfaction with housing, but has found little impact on outcomes such as general life satisfaction and psychiatric symptoms (Newman, 2001; Schutt et al., 1997; Wolf et al., 2001). The extent to which residence in supported independent housing impacts outcomes more directly related to community integration has not been directly assessed (Wong & Solomon, 2002).

The relationship of community integration to other important outcomes relevant to adults with SMI has also not been adequately addressed. Social functioning, which has a long history of measurement in mental health research (Mueser & Tarrier, 1998), overlaps conceptually with the physical and social aspects of community integration discussed by Wong and Solomon (2002). However, the notion of social functioning extends beyond these dimensions and includes important areas such as work, involvement in productive hobbies, and conduct of self-care activities (e.g., shopping, cooking, cleaning, etc.), and activities and social interactions that occur both inside and outside of one’s immediate neighborhood.

Another aspect of community integration that is beginning to be discussed is the degree of “opportunity” that people have to take advantage of what is available in the community (Salzer, 2005). This perspective emphasizes that it is most important for consumers to have the opportunity to take advantage of the community, and implies that they may legitimately choose not to take advantage of all available opportunities. Although it may be difficult to assess actual opportunities available to them, measuring perceived opportunity may offer one way of assessing this construct.

Neighborhood factors (i.e., characteristics of the community in which the housing is located), may also have an important influence on community integration (Newman, 2001). To date, the most thorough investigation of the relationship between community integration and neighborhood among adults with SMI still dates to the research of Segal and associates (Segal, Baumohl, & Moyles, 1980). This research found that individuals residing in diverse, working-class neighborhoods, and liberal, “non-traditional” neighborhoods experienced better integration outcomes than individuals living in higher income neighborhoods. However, this research only included persons living in “sheltered-care” settings, and therefore may not apply to persons living in supported housing. Furthermore, this research predates the current understanding of the impact of “neighborhood factors”, which has identified neighborhood collective efficacy (with social cohesion as a major component), neighborhood disadvantage, immigrant concentration and residential stability as neighborhood characteristics that are predictors of crime and health outcomes (Browning & Cagney, 2002; Sampson, Raudenbush, & Earls, 1997).

In our previous research we used qualitative methods to explore the psychological integration of formerly homeless individuals with SMI recently housed in both independent and group-based residential settings (Yanos, Barrow, & Tsemberis, 2004). Analyses showed that for a meaningful minority of individuals, the adaptation to housing was associated with challenges that complicated the integration process. Among those living in independent apartments, an important theme was difficulty coping with loneliness or adjusting to the tasks of living independently. Participants in both types of settings also frequently discussed difficulties “fitting in” in their community. Findings suggested that sense of “fitting in” can be influenced by a combination of variables, including the match between the ethnic/racial makeup of the neighborhood and the housed person, and the match between the individual’s values and the neighborhood’s.

In the present study we extended our earlier research to shed light on many of the questions about community integration that remain unaddressed. We used blended quantitative and qualitative methods to examine the experience of community integration among formerly homeless persons who had been stably housed to examine the experience of persons who have moved past an initial “adjustment” period. We employed a multifaceted view of community integration, and assessed the impact of objective and subjective neighborhood factors that might shape the relationship between housing and psychological integration. We included a measure of perceived choice as an index of perceived “opportunity”. In addition, we collected and analyzed qualitative data on respondents’ experiences of their living situations in order to explore some of the lifestyle dynamics that connect people, their housing, neighborhoods and other features of their social contexts. Questions addressed by the study include:

- What are the relationships between social functioning and the key dimensions of community integration?
- How does type of housing (independent apartment versus congregate care) affect community integration after an extended period of residence?
- How do perceived and objective neighborhood characteristics relate to individuals’ adjustment and psychological integration?
- How are individual “lifestyle” factors related to housing and community integration?

Methods

Research context

The present study was part of a larger experimental investigation of the impact of “Housing First”, as provided by Pathways to Housing, versus usual care in the treatment of formerly homeless persons diagnosed with SMI (see Gulcur et al., 2003, for a description of this study). The parent study sample consisted of 225 individuals in New York City with SMI and histories of homelessness of at least 6 months who had spent at least 15 of the past 30 days literally homeless on the streets or in public places (other than shelters). Of the 225, a subsample of 68 was recruited from state two psychiatric hospitals. For this subsample, the criteria for history of homelessness and literal homelessness in the past 30 days were assessed for the period immediately prior to hospital entry. To be eligible for the parent study, participants had to meet criteria for SMI specified by the rules of the joint New York City/New York state agreement for housing homeless persons with SMI (Metraux, Marcus, & Culhane, 2003). There were no other exclusion criteria from the study. Participants gave informed consent for participation in the study and for randomization prior to the baseline

interview. Participants were randomly assigned to either receive a referral to Pathways to Housing ($n = 99$), or to remain in “usual care” ($n = 126$) (the differential assignment ratio reflected both the capacity of the experimental program and the expectation that attrition would be higher from the control condition).

Participants

A total of 44 individuals who had been participating in the larger experimental study and had completed 36-month follow-up interviews were recruited for the present study. Participants were sampled and recruited from two different types of housing: (i) independent apartments with off-site services, and (ii) “congregate settings”, including community residences and single room occupancy hotels with or without on-site staff. Participants who could be located and had been living in their current residence for at least 1 year were eligible for inclusion in the present study. The initial goal of the study was to sample 25 persons housed in each category. Of 184 participants who had completed 36-month interviews, 75 participants were stably housed in independent apartments for at least 1 year (56 from the experimental condition and 19 from the control condition), while only 19 were stably housed in congregate settings for at least 1 year (2 from the experimental condition and 17 from the control condition). Other participants were homeless ($n = 29$; 26 from the control condition), living in transitional housing settings ($n = 11$; 9 from the control condition), in hospitals, jails or long-term residential drug treatment ($n = 35$; 17 from the control condition) or living in others’ apartments ($n = 14$; 11 from the control condition). As most eligible participants lived in independent apartments, it was decided to attempt to recruit all eligible participants who lived in congregate settings, and roughly 25 participants living in independent apartments. Two of the individuals living in congregate settings refused to participate.

Table I presents characteristics of the overall study sample. Participants had been residing at their current residences for an average of over 3 years. There were no significant differences in demographic characteristics between participants living in apartments and congregate settings. The majority of participants were male and non-white, with less than a high school education, typically in their late forties; these characteristics were very similar to

Table I. Demographic characteristics of the sample ($n = 44$).

Variable	% or Mean \pm SD
Gender:	
Male	81.8
Female	18.2
Ethnicity:	
White (not Hispanic)	30.2
Black (not Hispanic)	44.2
Hispanic	14.0
Mixed, Other or Unknown	11.6
Housing Setting:	
Independent Apartment	61.4
Congregate Setting	38.6
Education	11.3 \pm 2.6
Age	47.2 \pm 10.4
Months at current residence	38.3 \pm 20

those of the overall sample from the parent study (Gulcur et al., 2003) and to the homeless SMI population in New York City in general (Metraux et al., 2003).

Procedure

The study was approved by Institutional Review Boards of both Rutgers University and Pathways to Housing. Eligible persons participating in the larger study who had consented to be recontacted for future studies were contacted and offered the opportunity to participate in the current study; interested persons completed a new informed consent. Participants were interviewed in person between July 2003 and June 2004 by trained field interviewers.

Measures

Participants were administered a series of self-report measures. *Social functioning* was assessed using several subscales of the Social Functioning Scale (SFS) (Birchwood et al., 1990). This scale was developed specifically for adults with SMI; scores for subscales are converted to scaled scores as described by Birchwood et al. (1990). Subscales administered included *independence-performance* (involvement in self-care activities such as cooking, shopping, and cleaning), *occupation* (involvement in work, education and work training activities), *leisure activities* (including creative activities and other hobbies), and *prosocial activities* (involvement in community activities such as going to public places, movies, etc.). Internal consistency (Cronbach's alpha) for SFS subscales ranged from .703 to .819. *Physical community integration* was measured using the External Community Integration (ECI) scale (use of services and social activities within one's neighborhood) (Segal & Aviram, 1978) (alpha = .713). The Sense of Community Index (Perkins et al., 1990) was used to measure *psychological community integration*. This scale assesses an individual's perceptions of neighborhood belonging, emotional attachment, and influence with items such as "I feel at home on my block" and "It is very important to me to live on my particular block". As it was observed that 3 items from this scale contained similar wording to items from the measure of neighborhood social cohesion, analyses for this variable excluded 3 items¹ that focus primarily on perception of others' sense of community (removing these items reduced alpha from .81 to .742). *Perceived opportunity* was measured with a scale of perceived choice (Srebnick et al., 1995) (alpha = .865). This scale assesses how much choice an individual perceives to have in areas such as who can visit them, what kind of meals to eat, and how they can spend their time.

Both objective and subjective aspects of neighborhood were also assessed. *Perceived neighborhood social cohesion* was assessed using a measure developed by Sampson et al. (1997) (alpha = .736). This scale assesses a person's perceptions of how cohesive others in the neighborhood are with each other (e.g., "This is a close-knit neighborhood"). Participants were asked to report the zip code of their current residence (if they did not know the zip code, then they were asked to report the cross-streets of their residence and the correct zip code was later determined). Zip code data were used to draw objective neighborhood indicators from 2000 New York City census data (census level data were available for 42 of the 44 study participants). Following Sampson et al. (1997), three indicators of neighborhood environment were created- *socioeconomic disadvantage*, *immigrant concentration*, and *residential stability*. Z-scores for 5 major socioeconomic indicators (proportion of households receiving Public Assistance, proportion of households receiving Supplemental Security Income, proportion of households at or below poverty, proportion of

persons in the labor market who are unemployed, and proportion of households receiving Section 8 subsidies) were summed into a neighborhood disadvantage index (Frye & Wilt, 2001). *Immigrant concentration* was measured by computing the proportion of individuals in the neighborhood who were foreign-born. *Residential stability* was measured as the proportion of individuals who had resided in the neighborhood for over 5 years.

The raw material for qualitative analysis was the respondents' answers to open-ended questions about their feeling about their living situations and for their sense of fit with their surroundings. Interviewers pursued respondents' answers with impromptu questions seeking clarity and completeness in final answers. Respondents' answers were written verbatim and later transcribed by the interviewer. Responses to questions regarding *sense of "fitting in"* in neighborhood and building were coded as "yes" or "no". Descriptions of social interaction in neighborhood (e.g., descriptions of greeting neighbors, degree of familiarity with them, acts of reciprocity) were rated by two of the investigators on a scale of 1–4 (1 = isolation, 2 = minimal interaction, 3 = moderate interaction, 4 = frequent interaction). The mean of ratings from the two investigators were used as a measure of *neighborhood social integration*.

Analysis of quantitative data

Given the small sample size and exploratory nature of the study, associations between variables were assessed using bivariate tests. Associations between type of housing (independent apartment vs. congregate setting), "locus of meaningful activity" (see analysis of qualitative data, below) and outcomes were assessed using *F* and chi-square tests. Imputed means were used for scales with missing data for scale items (this was performed for scales of *perceived choice*, *sense of community* and *social cohesion*). Interrelations between community integration outcomes and associations between neighborhood characteristics and community integration outcomes were assessed using bivariate correlation tests. Subsequently, multiple regression was used to assess relationships in cases where multiple variables had significant bivariate relationships with community integration outcomes. Due to the small sample and the exploratory nature of the study, both significant associations ($p < .05$) and trends ($p < .1$) are reported.

Analysis of qualitative data

Analysis of respondents' accounts of their apartments, rooms, buildings, and neighborhoods used Kvale's (1996) method for analyzing interview data and, accordingly, proceeded sequentially through the processes of meaning condensation, meaning categorization, and interpretation of meaning. At the outset, the first and second authors read all 44 interviews numerous times while blind to respondents' responses to quantitative questions and, to the extent possible, their type of residence. They then independently wrote condensed accounts of each interview; these condensed accounts described opinions and sentiments about apartment, building and neighborhood. Researchers compared their condensed accounts and worked together to isolate the characteristics and/or elements of the stories that seemed particularly central to the respondents' social experiences. In this process of meaning categorization, researchers developed scales for coding respondents' liking for and sense of fit with building and neighborhood.

This process of categorization generated a preliminary interpretation of the meanings that respondents constructed around their residences. The notion of "locus of meaningful activity" emerged as a central concept that successfully differentiated accounts and provided

a comprehensive, respondent-defined interpretation of the significance of respondents' accounts of their living situations. This construct conveys the idea that people's relationships to their living environments are conditioned by an understanding of the primary location of their meaningful activities. To test the objectivity of this categorization scheme, researchers assessed inter-rater reliability of the system. By separately dividing respondents into four groups (those for whom their neighborhood, building, room or apartment was the locus of their meaningful activity, and those who gave no indication of having a meaningful activity), the two researchers agreed on the categorization of 80% of respondents. Discussion of the cases on which they disagreed led to refinements of coding definitions; the final schema is described in results, below.

Results

Quantitative findings: Interrelationship between outcome variables

Table II presents data on the correlations between the different measures of functioning and community integration used in this study. As can be seen in Table II, community integration consisted of several overlapping and relatively independent dimensions. Aspects of social functioning reflecting activities that typically do not require social interaction with others (independence, recreation and occupation) were strongly interrelated, but were not significantly related to external community integration or social integration, and (aside from a trend-level association between occupational functioning and "fitting in" in neighborhood) were not significantly associated with psychological integration. Aspects of functioning involving interaction with others (prosocial social functioning and external community integration), however, were strongly related to each other, and both were associated with sense of community, but were less strongly related to other aspects of social

Table II. Correlations between dimensions of functioning and community integration.

Variable	1	2	3	4	5	6	7	8	9	10
<i>Social functioning:</i>										
1. SFS – Independence	–									
2. SFS – Recreation	.511*	–								
3. SFS – Prosocial	.028	.420*	–							
4. SFS – Occupational	.393*	.253 [†]	.069	–						
<i>Opportunity:</i>										
5. Perceived choice	.564*	.163	.072	.271 [†]	–					
<i>Physical integration:</i>										
6. ECI	.125	.176	.724*	–.032	.231	–				
<i>Social integration:</i>										
7. Rating of neigh. social interaction	.119	.097	.195	.147	.004	.324*	–			
<i>Psych. Integration:</i>										
8. Sense of community [‡]	.147	–.174	.272 [†]	–.049	.292 [†]	.332*	.467*	–		
9. Fitting in – neighborhood (0 = No, 1 = Yes)	.070	.018	.046	.285 [†]	.082	.049	.544*	.372*	–	
10. Fitting in – building (0 = No, 1 = Yes)	.000	–.127	.055	.246	–.036	.102	.311*	.386*	.631*	–

* $p < .05$; [†] $p < .1$; [‡]Excludes 3 items due to conceptual overlap with Social Cohesion.

functioning (although prosocial SFS score was significantly related to recreation). Social interaction was distinct in that it was associated with both external community integration and all measures of psychological integration (sense of community and subjective fitting in), but not significantly associated with any aspect of social functioning. Perceived choice predicted independence but was only significantly associated with sense of community at a trend level. Psychological integration was not significantly associated with social functioning. However, external community integration and neighborhood social interaction were both significantly associated with sense of community. Sense of community was significantly associated with categorical sense of “fitting in” both in building and neighborhood, but more modestly than anticipated.

Quantitative findings: Housing type and community integration

Table III presents data on the association between type of housing and community integration outcomes. As can be seen in Table III, residence in independent apartments was significantly associated with greater independence (attending to personal and household responsibilities such as self-care, shopping, cooking, and cleaning) and greater occupational functioning on the SFS. Residence in apartments was also significantly associated with a greater subjective sense of choice. Housing type was not significantly associated with any other functioning or community integration outcomes.

Quantitative findings: Neighborhood factors

Table IV presents correlations between subjective and objective neighborhood characteristics and community integration outcomes. For this table, the overall mean of social functioning subscales is presented as there were no significant relationships between any SFS subscale and any of the neighborhood variables. As can be seen in Table IV, the

Table III. Differences in outcomes between individuals housed in independent apartments and congregate settings.

Variable	Housed in independent apt. (<i>n</i> = 27) M ± SD or %	Housed in congregate setting (<i>n</i> = 17) M ± SD or %	<i>F</i> or χ^2	<i>p</i>
<i>Social functioning:</i>				
SFS-Independence	114.25 ± 9.61	106.47 ± 11.73	5.77	<.05
SFS-Recreation	117.33 ± 14.58	110.41 ± 15.19	2.27	ns
SFS-Prosocal	107.33 ± 13.57	110.38 ± 13.93	.516	ns
SFS-Occupational	105.74 ± 9.12	99.47 ± 4.97	6.72	<.05
<i>Opportunity:</i>				
Perceived choice	3.95 ± .63	3.21 ± .83	11.25	<.05
<i>Physical integration:</i>				
ECI	31.03 ± 6.44	33.76 ± 8.07	1.53	ns
<i>Social integration:</i>				
Rating of neigh. social int.	2.13 ± .83	2.32 ± .49	.757	ns
<i>Psych. integration:</i>				
Sense of community [‡]	.51 ± .24	.64 ± .28	2.39	ns
Fitting in – neighborhood	33.3	47.1	.829	ns
Fitting in – building	48.1	64.7	.283	ns

[‡]Excludes 3 items due to conceptual overlap with Social Cohesion.

Table IV. Correlations between subjective and objective neighborhood characteristics and outcomes.

Variable	SFS overall	Perceived choice	External community integration	Rating of neigh. social int.	Sense of community [‡]	Fitting in – Neigh. (0 = No, 1 = Yes)	Fitting in – Building (0 = No, 1 = Yes)
Perceived social cohesion [†]	.034	.308*	.221	.240	.563*	.316*	.372*
Neighborhood disadvantage index	.027	.093	.240	.176	.232	.114	.246
Proportion of foreign-born in neighborhood	-.002	.048	-.131	-.105	-.370*	-.028	-.115
Residential stability	.037	.103	-.115	-.228	-.120	-.026	.154

* $p < .05$; [†] $p < .1$; [‡]Excludes 3 items due to conceptual overlap with Social Cohesion.

subjective assessment of neighborhood social cohesion was strongly associated with subjective community integration outcomes, including perceived choice, sense of community, and sense of “fitting in” both in building and neighborhood; however, they were not significantly associated with social functioning or physical/social integration.

Objective neighborhood indicators were associated with relatively few community integration outcomes. Neighborhood disadvantage and residential stability were not significantly associated with any outcomes. The proportion of foreign-born individuals living in one’s neighborhood was significantly negatively associated with sense of community but no other variables.

To explore a hypothesis emerging from our prior work (Yanos et al., 2004), a variable was created to assess whether there was an association between the degree of “match” between participants’ self-reported ethnicity and the predominant racial/ethnic composition of the neighborhood (i.e., greater than 50%), and community integration. The neighborhood ethnic composition from the census data was used to determine if there was a predominant ethnic composition to each neighborhood (based on major ethnic/racial groups of “white,” “black,” “Hispanic,” “Asian” and “other”). Neighborhoods with no ethnic group comprising more than 50% of the population were considered to be “multi-ethnic”. Participants’ degree of match with their neighborhood ethnic composition was coded as “match”, “mismatch,” or “mixed”. Contrary to expectation, there were no significant associations or trends in association between ethnic match and community integration variables.

Qualitative findings: Locus of meaningful activity

The categorization of respondents into groups describing the primary locus of the meaningful activity in their lives produced a distribution in which 11 (25%) respondents fell into the neighborhood or employment category, 4 (9%) in the building category, and 12 (27%) in the apartment or room group. Seventeen (38.6%) respondents described no meaningful activity suggesting that the categorization scheme found physical locations for meaningful activity among almost two-thirds of the sample.

The number of participants categorized as having “no meaningful activity” might have been smaller if respondents had been specifically asked about their activities and pursuits; the general questions about locations did not necessarily provoke descriptions of significant

pursuits. In point of fact, however, many of the respondents in this group did seem to live lives without an involving pursuit or set of meaningful social connections: in this category, respondents said, "I lay in my bed and look at the walls. I am broke and all tapped out," or "I want to get out But I don't have the energy. I am on too many medications". Others in this category gave descriptions of lives without apparent focus, without recognizing the absence of such a feature.

Respondents whose meaningful activity occurred primarily in their room or apartment named diverse types of meaningful activity. Some of these activities were connected with outside institutions as was the case for writers, for a man who relied on the internet, and for artists and musical performers. "There's enough space for me and my two idiot cats. I can work [here] comfortably". Other activities were solitary in pursuit and had meaning primarily to the person doing them: these activities included raising flowers, building model boats and simply having "my own music for myself". In some cases, the responses suggested that the respondent's apartment- or room-based activity was part of a fight in an internal battle: one respondent described his enjoyment of his solitary pursuits in his room more or less as an antidote to drug use: "When I was on dope I used to bring people home all the time. But now I burn incense and listen to records that I choose and listen to Gospel".

Respondents whose meaningful activity was outside employment or informal roles in the neighborhood were a more cohesive group in that all of the meaningful activities described consisted of some identifiable social role with meaning to others, ranging in formality from paid work roles to informal "jobs" like neighborhood messenger and the daily greeter of dogs and their owners in the park. Sometimes these respondents were exuberant about the sense of community they experienced in their neighborhoods: "The camaraderie of the others who live around my street is great . . . people know me and say hello . . . it is like I have a large family". Though the employed respondents weren't necessarily deeply involved in their neighborhoods, their feelings about their neighborhoods ranged from indifferent to quite positive: "The friends that I have are not in the neighborhood I go to work everyday and do my routine [but] I like being here".

The smallest group consisted of people whose meaningful activity occurred within their building. All members of this group were in congregate living arrangements where, as one respondent described it, ". . . we all had problems – alcohol, drugs, or whatever". Those in congregate buildings who found their most meaningful activities there tended to be oriented toward treatment programs ("We all go for treatment groups and then come back and socialize for an hour watching television") and, in two cases, saw friendships in the building as particularly close ("We stick together [in this building]. We get along here. We stick together like brothers and sisters – like family").

Relationship of locus of meaningful activity to outcomes

Examining measures of community integration across these groups (see Table V) revealed that grouping respondents by locus of meaningful activity explained numerous facets of community integration. Neighborhood social interaction, sense of community, subjective fit in the neighborhood and subjective fit in the building were all significantly different across groups as was the occupational index of social functioning. Post hoc tests (Tukey HSD) revealed that participants oriented toward their buildings and neighborhoods/employment had significantly higher sense of community scores in comparison with participants with no meaningful activity; and that participants oriented toward their neighborhoods had significantly greater neighborhood interaction ratings than participants with no meaningful

Table V. Relationship between locus of meaningful activity (LMA) and outcomes.

	LMA: None (n = 17) M ± SD or %	LMA: Apartment or room (n = 12) M ± SD or %	LMA: Building (n = 4) M ± SD or %	LMA: Neigh. or employment (n = 11) M ± SD or %	F or χ^2	p
<i>Social functioning:</i>						
SFS – Independence	108.03 ± 13.77	112.46 ± 6.02	109.75 ± 19.51	115.45 ± 5.14	1.09	ns
SFS – Recreation	111.76 ± 15.38	120.04 ± 13.64	104 ± 12.29	117.13 ± 15.58	1.58	ns
SFS – Prosocial	104.88 ± 14.26	111.08 ± 14.08	112.37 ± 7.54	109.91 ± 14.13	.674	ns
SFS – Occupational	102.05 ± 7.81	100.75 ± 5.77	97.5 ± 0	110.18 ± 9.32	4.58	p < .01
<i>Opportunity:</i>						
Perceived choice	3.42 ± .89	3.81 ± .74	3.51 ± .99	3.95 ± .56	1.22	ns
<i>Physical integration:</i>						
ECI	29.58 ± 6.97	31.91 ± 7.58	36 ± 6.27	34.72 ± 6.53	1.66	ns
<i>Social integration:</i>						
Rating of neigh. social int.	1.94 ± .49	2.04 ± .69	2.37 ± .48	2.72 ± .88	3.51	p < .05
<i>Psych. integration:</i>						
Sense of community [‡]	.47 ± .28	.48 ± .22	.85 ± .14	.69 ± .19	4.14	p < .05
Fitting in – neighborhood	35.3	8.3	25	81.8	13.69	p < .01
Fitting in – building	41.2	25	100	90.9	14.65	p < .01

[‡]Excludes 3 items due to conceptual overlap with Social Cohesion.

activity. Social functioning in occupational roles, not surprisingly, differentiated the neighborhood-and-employment group from all others. With regard to “fitting in”, a distinct pattern emerged with the great majority of participants oriented toward their neighborhoods or employment feeling that they “fit in” in both their neighborhoods and buildings, while a minority of participants oriented toward their apartments or with no meaningful activity felt that they “fit in” in either setting. Participants oriented toward their buildings all enjoyed a sense of fit with their buildings, but only one of four subjectively “fit in” in his or her neighborhood.

Relationship of locus of meaningful activity to housing

Follow-up analyses revealed that locus of meaningful activity was strongly linked to type of housing. Roughly half of those in congregate settings (8 out of 17) had no meaningful activity whereas only a third of those in independent apartments (9 of 27) had none. All of those with building as their locus of meaning activity were in congregate settings. Three-fourths (n = 9) of those oriented toward their apartments or rooms were residents of independent apartments and, conversely, almost all (n = 9; 82%) of those who found meaningful activity in the neighborhood or in employment were residents of independent apartments. Despite small cell-sizes, a significant association was observed between type of housing and locus of meaningful activity ($\chi^2 = 9.74$; p < .05).

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Multivariate analyses

Despite the small sample size, multivariate analyses were also conducted to assess whether variables significantly predicting community integration outcomes in bivariate analyses would remain significant when controlling for other relevant predictors. Due to the low power, it was decided that only variables that demonstrated a significant bivariate relationship would be included in these analyses (the relationship between demographic variables, including age, education and length of time in residence and all community integration outcomes was also explored; none of these variables were significantly associated with any of the community integration outcomes studied). Sense of community and perceived choice were examined, as these outcomes were significantly associated with more than one predictor variable.

For sense of community as dependent variable, immigrant concentration, perceived social cohesion and locus of meaningful activity (dichotomized, collapsing no meaningful activity and apartment or room into one group [coded as 0], and building and neighborhood/employment into another group [coded as 1]) were entered in a simultaneous regression equation. The overall equation was significant ($p < .01$) and predicted 58% of the variance in sense of community, with significant beta's for all three variables predictors (immigrant concentration: $\beta = -.348$, $p < .01$; perceived social cohesion: $\beta = .528$, $p < .01$; locus of meaningful activity: $\beta = .288$, $p = .016$). This indicates that these variables each independently predicted psychological community integration.

For perceived choice as a dependent variable, housing type (0 = congregate setting, 1 = independent apartment) and perceived social cohesion were entered in a simultaneous regression equation. The overall equation was significant ($p < .01$) and predicted 33% of the variance in perceived choice; betas for both housing type and perceived social cohesion were significant (housing type: $\beta = .488$, $p < .01$; perceived social cohesion: $\beta = .348$, $p = .01$). This indicates that both variables independently predicted perceived choice.

Discussion

The findings of this study have several implications for the literature on housing and the community integration of persons diagnosed with SMI. First, we conclude that social functioning and community integration are indeed related constructs, but that social functioning is closely related to physical integration and bears little relation to psychological integration. Social functioning, in turn, contains relatively independent dimensions consisting of activities that can be conducted in relative solitude and activities that require interaction with others. With regard to community integration, we found that sense of community is moderately related to physical and social integration. This finding differs from Prince and Gerber (2005) and Silverman and Segal (1994) who found little relationship between psychological integration and other aspects of community integration. It is possible that this was due to the fact that the present study focused on persons who had been living in their neighborhoods for longer periods of time and therefore had better opportunity to relate their perceived fit to their actual involvement in community activities.

Regarding neighborhood factors, perceived neighborhood social cohesion was strongly related to psychological integration, but was not related to functioning or physical/social integration. Nevertheless, despite our effort to remove items that we considered to be redundant between the two measures, it is unclear to what extent we can consider perceived social cohesion to be independent of an individual's experience of fitting in (see Lochner, Kawachi, & Kennedy [1999] for a review that suggests that sense of community and social

cohesion are strongly related constructs). Furthermore, while previous research has suggested that individually reported perceived neighborhood characteristics are reliable and may therefore reflect actual neighborhood characteristics (Echevarria, Diez-Roux, & Link, 2004) it is unclear if this holds true in a sample of formerly homeless persons with psychiatric disorders. In fact, some participants described the same neighborhoods in dramatically different ways, suggesting that experiences related to homelessness or possibly psychiatric symptoms may color perceptions of neighborhood for some individuals.

While the hypothesis that objective neighborhood socioeconomic characteristics would explain community integration was generally unsupported, one important exception emerged: the proportion of foreign-born individuals in one's neighborhood was negatively related to sense of community (a relationship that remained significant in multivariate analyses), suggesting that individuals felt particularly "left out" in these neighborhoods. Neighborhoods with a high concentration of these (most likely) less acculturated immigrants may have been locations where a newcomer from a different ethnic group is particularly unlikely to feel at home. This aspect of neighborhood characteristics would have eluded our attempt to examine the relationship between "ethnic match" (based on census data) and community integration, since there can also be a gap in fit between recent immigrants and acculturated members of the same general ethnic category (e.g., the distinction between recent Mexican immigrants and second-generation persons of Puerto Rican background).

The concept of locus of meaningful activity, which emerged from our qualitative analyses, provides a potential organizing construct that can help to link housing policy and community integration. Having one's locus of meaningful activity in one's building, neighborhood or job meant having a higher sense of community, and a better sense of "fitting in" with neighborhood and building than having a locus of meaningful activity in one's apartment or not having one at all. Locus of meaningful activity was strongly linked to type of housing; this suggests that housing type can create or limit opportunities that influence community integration. The ability to exercise independence and make choices may be personal resources that individuals gain access to through residence in independent apartments that they then use in choosing the location and extent of their community integration activities. The ability to decide to seek out relationships in the immediate community or to remain focused on activities within the home may have been more available to those residing in apartments. Individuals living in congregate settings, in turn, had the opportunity to find meaning in a sense of fellowship with other mental health consumers in their residences, but, lacking the freedom to pursue solitary activities in their rooms or make other choices, may have restricted their opportunity to develop meaningful activity outside the program. Further supporting this interpretation was the quantitative finding that participants residing in apartments evidenced significantly higher social functioning than congregate dwellers in areas not requiring interaction with others (occupation and independence), and reported a significantly greater sense of choice. Aside from the constraining or facilitating impact of housing type, the aforementioned choices that an individual makes should also be partially influenced by both preexisting individual characteristics (e.g., personality orientations such as introversion and extroversion) and the opportunities for integration in the local community.

With regard to the impact of neighborhood opportunity, we initially expected that neighborhood structural characteristics indicative of greater social disorganization (neighborhood disadvantage, immigrant concentration, residential instability) would constrain opportunities for integration. However, objective neighborhood characteristics proved only weakly related to community integration outcomes in this study. This was partially due to low statistical power, and also possibly because the zip code level data covered areas too

broad to capture the immediate communities of greatest relevance to individuals. Further research, possibly incorporating the “systematic observation” methods that Sampson and Raudenbush (1999) have described, needs to be conducted to better assess neighborhood resources and climate.

We note that our small sample size limited statistical power, and made it untenable to conduct the types of multivariate analyses that would have clarified the mediating and moderating relationships between the variables studied. Furthermore, despite being embedded in the context of a larger experimental study, the persons who participated in our study had been enrolled in the larger study for several years, and at the point that we interviewed them may have been self-selected into housing types. Thus, we cannot draw definite causal inferences for the relationship between housing type and the outcomes studied. Nevertheless, we feel that our study presents important findings that can help build a framework for a larger study examining the relationship between housing type, individual characteristics and community integration. This study would require a prospective design and would require the measurement of individual characteristics as well as housing and neighborhood characteristics, in order to capture the interactive process by which individuals come to choose different types of community interaction within the constraints made available to them.

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Note

1 “People on my block do not share the same values”; “If there is a problem on my block people who live there can get it solved”; “People on my block generally don’t get along with each other”.

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