

Community Integration of Adults with Psychiatric Disabilities and Histories of Homelessness

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ABSTRACT: This study tests components of Wong and Solomon's (2002, *Mental Health Services Research*, 4(2), 13–28) model of community integration, identifying both the dimensions and predictors of integration. It evaluates community integration among adults with psychiatric disabilities assigned randomly to receive either independent scatter-site apartments with the Housing First approach (experimental) or services as usual (control). Factor analysis supported a definition of community integration that includes psychological, physical, and social domains, but also suggested the existence of another factor, independence/self-actualization. Regression analysis suggested that choice and independent scatter-site housing were predictors of psychological and social integration respectively. Psychiatric hospitalization, symptomatology and participation in substance use treatment were also found to influence aspects of integration. We discuss several issues that future studies should explore including the possibility that the same factor can differentially influence discrete aspects of integration, the role of person–environment fit, integration that is not based in the neighborhood, and, finally, conceptions of community integration from the perspective of consumers themselves.

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INTRODUCTION

Community integration of persons with psychiatric disabilities has been studied for several decades. While there is general consensus that services for individuals with psychiatric disabilities should foster community integration, the numerous and diverse service interventions, and a variety of research outcomes suggests that this concept is wanting for a clearly articulated conceptual framework. At its inception, community integration was narrowly defined as residential tenure outside of institutional settings, such as psychiatric hospitals or other treatment facilities (Rosenblatt & Mayer, 1974). The definition has subsequently been expanded to refer more generally to the extent to which an individual lives, participates, and socializes in his/her community (Wong & Solomon, 2002).

There has been a recent emphasis on this broader, more comprehensive view of integration as a multi-dimensional construct. Based on a synthesis of diverse definitions and frameworks posed by others, the work of Wong and Solomon (2002) has helped advance the notion that community integration encompasses physical, social, and psychological dimensions. Physical integration has typically been defined as the extent to which an individual engages in activities and utilizes resources outside of their home (Segal & Aviram, 1978). Social integration refers to the extent of individuals' social interaction with neighbors (Aubry, Tefft, & Currie, 1995; Unger & Wandersman, 1985). Finally, psychological integration describes the extent to which an individual feels that s/he belongs in the community and experiences emotional attachment to neighbors (McMillan & Chavis, 1986; Perkins, Florin, Rich, Wandersman, & Chavis, 1990). In this comprehensive definition, integration is conceptualized as including both tangible and intangible aspects, everything from going shopping to feeling part of a community. Even though previous researchers have investigated various aspects of community integration, Wong and Solomon (2002) are currently the only ones who have proposed a multi-dimensional framework that combines previously conceptualized dimensions as well as a conceptually coherent array of individual,

program, and neighborhood predictors. This framework of community integration has emerged, therefore, as a leading model in the field of psychiatric disability.

Determinants of Community Integration

Researchers that have focused on investigating community integration find that persons with psychiatric disabilities report fairly low to moderate levels of community integration and that various client, residential facility, and community factors can influence the degree to which individuals are integrated. In a landmark study examining possible determinants of integration, Segal and Aviram (1978) found that social support as a community factor had the greatest influence on the level of participation in community activities for individuals with mental illness residing in board-and-care homes. Other studies have confirmed that greater community acceptance and lower levels of rejection are associated with increased integration (Nelson, Hall, Squire, & Walsch-Bowers, 1992; Segal & Aviram, 1978; Sherman, Frenkel, & Newman, 1986). City population density has been yet another community factor identified as a predictor of integration (Kruzich, 1985).

Characteristics of residential programs have also been found to influence community integration. Staff management styles that foster greater independence and less depersonalization are associated with greater community integration, as are residences that offer a range of social skills training (Kruzich, 1985; Segal & Aviram, 1978), that provide intense support services and that encourage resident involvement (Segal & Aviram, 1978). Similarly, one key aspect of independent residential arrangements, consumer choice, has been associated with positive outcomes related to community integration, such as increased residential stability and decreased psychiatric symptomatology (Greenwood, Schaefer-McDaniel, Winkel, & Tsemberis, 2005). Finally, residential arrangements that are more independent and more normalized (i.e., structured more like regular housing in the community) have been associated with aspects of improved community integration (Hull & Thompson, 1981; Van Wel, Felling, & Persoon, 2003).

Studies of individual characteristics have also identified several predictors of community integration. Specifically, younger age (Kruzich, 1985; Nagy, Fisher, & Tessler, 1988), higher psychosocial functioning (Kruzich, 1985), greater social competence (Kennedy, 1989), and less psychopathology (Segal & Everett-Dille, 1980; Timko & Moos, 1998) have been associated with higher levels of physical integration.

While research on the physical dimensions of integration has been productive, how these factors relate to the social and psychological aspects of integration remains to be explored.

Wong and Solomon's (2002) conceptual model for studying the determinants of community integration of persons with psychiatric disabilities includes personal and program factors that potentially influence individuals' levels of community integration. Personal factors are individual characteristics, such as socio-demographic background, psychiatric symptomatology, and housing preferences. Program factors consist of attributes of the housing, behavioral, and support environments in which individuals find themselves. The housing environment variable includes physical and social aspects of an individual's residence and neighborhood; the behavioral environment refers to the particular guidelines and procedures by which the housing program operates as well as the nature and range of service delivery; and the support environment characterizes the nature of social contact among residents and staff, and is indicative of the program's "atmosphere" (Moos & Lemke, 1996).

Using a similar approach to community integration, Prince and Prince (2002) examined the impact of stigma on integration among clients of Assertive Community Treatment (ACT). Consumers' greater psychosocial functioning and perceived community support were found to be related to both increased physical and psychological integration. Conversely, perceived stigma was most strongly and negatively associated with psychological integration, such that greater stigma was associated with a decreased sense of belonging in the community. While several studies have used this broader view of community integration, to our knowledge, only Prince and Prince have focused on investigating how various predictors influence the different dimensions of integration.

The study described here tests several components of Wong and Solomon's (2002) model of community integration. It evaluates the three domains of community integration among a sample of persons with psychiatric disabilities who participated in a study in which they were assigned randomly to one of two groups. One of these settings (the experimental condition) was a program that implements a Housing First approach wherein consumers live in their own apartments (scatter-site) and support services are offered based on client choice. Apartments are located within normal residential buildings and are scattered throughout city neighborhoods. Services

are provided flexibly by ACT teams and are located off-site (Tsemberis & Asmussen, 1999). Receiving and maintaining housing is not contingent on consumers' sobriety or participation in psychiatric or substance use treatment. The other residential settings (services-as-usual) consisted of various congregate living arrangements representative of the Continuum of Care. The Continuum of Care approach begins with outreach, includes treatment and transitional housing, and ends with permanent supported housing. Within this approach, progress towards independent living is predicated on meeting treatment and sobriety goals set by the service provider. This study explores the relationship between elements of consumers' housing and support environments (program factors), individual factors and different domains of integration.

This study was conducted during the last panel of an ongoing four-year project that examined various client outcomes including residential stability, substance use, mental health, and hospitalization (Gulcur, Stefancic, Shinn, Tsemberis, & Fischer, 2003; Tsemberis, Gulcur, & Nakae, 2004). For the larger study, participants were interviewed every 6 months and many of the variables used in this analysis were already embedded in measures within the interview protocol. However, several new measures relevant to community integration were added only to the final 48-month interview, in order to test Wong and Solomon's (2002) model.

The analysis is driven by two sets of hypotheses derived from the aforementioned research evidence and clinical observations. The first focuses on identifying the components of integration, and the second on identifying possible determinants.

Hypothesis 1: The variables suggested for constituting community integration would load onto three factors as follows:

1. Life satisfaction, perceived neighborhood cohesion, psychological well-being, self-actualization, and quality of life would load onto a "psychological" factor.
2. Organizational participation, activities of daily living (ADL), and participation in leisure activities would load onto a "physical" factor.
3. Satisfaction with social support and size of neighborhood social network would load onto a "social integration" factor.

Hypothesis 2: Because of the dearth of published data and the existence of competing theoretical possibilities, the second hypothesis constituted a largely exploratory analysis. We indicate the ways in which certain predictors may influence community integration, but did not have expectations as to which specific domain of integration they might affect. The following variables were selected as determinants of community integration based upon prior literature and theoretical relevance. Thus, we hypothesized that individual and program characteristics would influence community integration in the following ways:

1. Older age, higher psychopathology and residence in a psychiatric hospital prior to program entry would be associated with decreased community integration.
2. Experimental status (normalized scatter-site housing), consumer choice, and utilization of psychiatric and substance use treatment services would be associated with greater community integration.
3. Stigma would be associated with decreased community integration.

METHOD

Participants

Two hundred and twenty five participants living in New York City were included in the original sample. Fifty-six percent of the sample ($n = 126$) were assigned to the services as usual condition (control) and typically resided in housing arrangements such as drop-in centers, SROs, community residences, and institutions throughout the study period. Participants assigned to the experimental condition ($n = 99$, 44%) were referred to a program that used a Housing First approach, providing participants with independent scatter-site apartments without prerequisites for treatment and sobriety. The control group was purposely over-sampled because these participants were expected to be more likely to become lost due to attrition. The sample was comprised of two sub-groups: An original street sample of 157 participants who met the following eligibility criteria for the study: (1) spent 15 out of the last 30 days on the street or in other public places (not including shelters); (2) history of homelessness over the past 6 months; and (3) had an Axis I diagnosis of severe mental illness. The second group of 68 individuals was recruited from two state psychiatric hospitals. These individuals met the same entry criteria for homelessness and mental illness as the street sample prior to hospitalization and were randomly assigned to experimental or control upon discharge.

Descriptive statistics

In all, 183 participants (81%) completed the final (48-month) interview and were included in these analyses. Eighty-two (44.8%) of the participants had been randomized into the experimental group (Housing First) and the remaining 101 (55.2%) had been

randomized into the control group (services-as-usual) after baseline. The sample was ethnically diverse, but consistent with other samples of homeless individuals in urban areas, minority groups were over-represented. The sample consisted mostly of men ($n = 144$, 78.7%) and was on average 41-years-old at baseline. More than one-third ($n = 78$, 42%) were diagnosed with a psychotic disorder. The average age of first experience of homelessness was 29, and the average longest period of time spent homeless was 4.26 years, with a range of <1–39 years. There were no significant differences between experimental and control groups on baseline demographic characteristics such as gender, age, education, race or diagnosis, indicating that randomization was successful. In addition, there were no significant differences between completers and non-completers (those who dropped out of the study by 48 months) on either baseline demographic characteristics or rates of psychiatric and substance use treatment utilization.

Procedures

After completing their baseline interviews, participants were interviewed every 6 months. Data collection for the larger 48-month project in which this sub-study was embedded began in December 1997 and ended in April 2003. During each interim 6-month period, 5-min monthly telephone calls were conducted to maintain contact with participants and establish their whereabouts. Participants were paid for all interviews. Six-month interviews were conducted in a variety of locations including the research office, the participant's apartment/residential location, or a public place such as a cafe or restaurant. When it was not possible for interviews to be conducted face-to-face (e.g. if the participant had moved out of state), interviews were conducted over the phone using the same protocol. For participants in psychiatric hospitals and correctional facilities, interviewers made on-site visits. With the exception of additional questions related to community integration, the questions asked during each interview period remained the same. The follow-up rate at the 48-month time period, when data used in this analysis were collected, was 81%.

Measures

Outcome variables. Five subscales were selected from the *Wisconsin Quality of Life* (Becker, Diamond, & Sainfort, 1993) as representative of components of community integration. These subscales were: (a) average life satisfaction, (b) psychological well-being, (c) ADL, (d) social and leisure activities, and (e) satisfaction with social support.

Average Life Satisfaction consisted of the mean of a 10-item Likert scale, with 1 = *very dissatisfied* and 7 = *very satisfied*. The scale is weighted by a measure of importance of each life domain. Internal consistency was high ($n = 126$, $\alpha = .82$). Examples of items are: *How satisfied or dissatisfied are you with your neighborhood?* and *how satisfied or dissatisfied are you with your housing?*

ADL consisted of the weighted mean of a six-item measure of activities completed during the past week, such as going shopping, doing laundry, or going for a ride in a bus or car.

Social and Leisure Activities consisted of the mean of a 10-item measure of activities participated in during the past week such as going to a social group, a church, synagogue or mosque, playing a sport or going for a walk.

Psychological Well-Being consisted of the mean of a 10-item scale, with 1 = *yes* and 0 = *no*. Examples of items are: *Have you felt depressed?* *Have you felt unhappy?* and *Have you felt that things went your way?*

Satisfaction with Social Support consisted of the weighted mean of a 5-item Likert scale, with 1 = *Very dissatisfied* and 7 = *Very satisfied*. Internal consistency was moderate ($n = 140$, $\alpha = .54$). Examples of items are: *How satisfied or dissatisfied are you with how you get along with your friends?* and *How satisfied or dissatisfied are you with your relationships with your family?*

Five additional measures were also used as outcome variables representative of various aspects of community integration: (1) neighborhood cohesion, (2) self-actualization, (3) quality of life, (4) organizational participation, and (5) number of social network members from neighborhood.

Neighborhood Cohesion (Bruckner, 1988) consisted of the mean of an 18-item Likert scale, with 1 = *Strongly disagree* and 5 = *Strongly agree* ($n = 147$, $\alpha = .88$). Examples of items are: *I feel like I belong to this neighborhood* and *I believe my neighbors would help me in an emergency*.

Self-Actualization consisted of a set of 20 forced-choice items based on Maslow's (1971) five levels of needs (1 = survival, 2 = safety and security, 3 = social relationships; 4 = self-esteem, and 5 = pursuing self-actualization). Each respondent had a preliminary score for each of the five levels. Participants' final score was the level that received the greatest number of responses. When two or more levels received equal numbers of responses, the highest level was selected.

Lehman Quality of Life (1988). Each participant was asked to respond to the single question: *How do you feel about your life in general?* A score was obtained by taking the mean of this item which was rated twice, once at the beginning and once at the end of the interview. Scores ranged from 1 = *Terrible* to 7 = *Delighted*.

Organizational Participation. (Shinn, Personal Communication) Participants were asked to rate how often they attended each of four different types of organizations: religious/spiritual groups, meetings of community organizations, support/self-help groups, and other meetings. Responses to individual items ranged from 0 = *Never* to 4 = *Almost every day* and were calculated as the mean of total responses.

Network Members from Neighborhood: A modified version of a social network measure from Barrera (1981) was used. Participants responded to questions probing whether any members of the respondent's social network fit certain criteria, either positive or negative. Items inquired whether there were persons to whom the participant could speak with about their problems, who might lend them money, or who were critical of the participant. The number of individuals who fit these criteria from the participants' neighborhood were summed to yield a total score for the number of social network members from their neighborhood.

Predictor variables. Five "program domain" variables (Wong and Solomon, 2002) were chosen as predictors of community integration: (1) housing environment (assessed as program assignment), (2) consumer choice, (3) participation in substance use treatment, (4) participation in psychiatric treatment, (5) stigma. For the housing environment domain, program assignment was used as an indicator of normalization of housing, and perceived stigma as an indicator of degree of community support. For the domain of behavioral environment, perceived choice was used as a measure of independence, and utilization of mental health and substance use treatment services as a gauge for service availability.

The measure assessing *consumer choice* was modified from Srebnik, Livingston, Gordon, and King (1995) so that participants were asked to indicate their perceived level of choice for items assessing housing-related domains such as choosing the place where they live or how they spend their day. This 16-item scale asked participants to rate their amount of choice on a five-point Likert scale with answer choices ranging

from no choice at all to completely my choice. Responses were then averaged for each participant. Internal consistency was .92.

Substance use treatment was measured using a modified shorter version of the Treatment Services Inventory (McLellan et al., 1992). In the interview, participants were asked if they received any substance use treatment during the past 2 weeks. Drug and alcohol treatment services included the average of a 7-item measure consisting of questions such as whether the participant had received treatment in a detox program or other program, consulted with a counselor to talk about substance problems, and attended AA, NA, or any other self-help group.

Psychiatric treatment was measured using a modified shorter version of the Treatment Services Inventory (McLellan et al., 1992). In the interview, participants were asked if they received any psychiatric treatment during the past 2 weeks. This included the average of a 7-item measure consisting of questions such as whether the participant had stayed overnight in a psychiatric hospital, attended a day treatment center, or made visits to a doctor or nurse to discuss emotional problems.

Stigma (Link, 1987) consisted of the mean of a 15-item Likert scale ($n = 105$, $\alpha = .75$). with 1 = *few* and 4 = *most* and was used as a response to items such as: *Members of my community look down on people who were once mental patients*, *People think less of a person who has been in a psychiatric hospital*, and *People feel it is all right to make fun of a mentally ill person*.

Finally, a series of individual covariates drawn from the literature and selected for inclusion in the analysis were age, education, sex, level of psychopathology, race, employment status, and residence at baseline. The Colorado Symptom Index (CSI) was used to measure level of psychopathology (Ciarolo, Edwards, Kiresuk, Newman, & Brown, 1981). The CSI is a 12-item measure assessing how often respondents experience symptoms such as hearing voices or feeling anxious.

RESULTS

Factor Analysis

After standardizing the outcome variables comprising community integration, an exploratory principal components factor analysis with Kaiser normalization was performed on the measures using data from the 183 participants. Principal components analysis was used for the initial factor extraction. Four factors obtained eigenvalues greater than 1.0, and these factors accounted for 19.92%, 14.65%, 12.04%, and 10.69% of the variance, respectively, totaling 57.3%. Three of these factors supported the hypothesized structure of psychological, physical, and social integration. An unexpected fourth factor, comprised of (1) ADL and (2) self-actualization was named independence/self-actualization.

An Oblimin rotation with Kaiser normalization was performed. Factor 1 included four of the five measures hypothesized to represent psychological integration (WQOL-I, Quality of Life, Psychological Well-being, Neighborhood Cohesion), with factors loading at .74, .66, .63 and

.58, respectively. Factor 2 was comprised of two of the three measures hypothesized to represent physical integration (Organization Participation, Leisure Activities), with .85 and .83 factor loadings. Factor 3 was comprised of the two measures hypothesized to represent social integration (Social Support, Social Network Members from Neighborhood), with .73 and .69 factor loadings. The independence/self-actualization measures (ADL, Self-actualization) loaded at $-.73$ and $-.58$.

Regression Analyses

A series of separate hierarchical moderator regression analyses tested the effects on each of the four community integration factors (psychological, physical, social integration and independence–self-actualization) of five program domain variables (experimental status, consumer choice, substance use treatment utilization, psychiatric treatment utilization, stigma). Personal history and demographic variables were controlled for at the first step. The second step included the program domain variables. Table 1 shows the descriptive statistics and inter-correlations of all the variables used in the regression equation.

Table 2 shows the results of the hierarchical regression analysis for the main effects on all four outcome variables.

For psychological integration, the negative bivariate association between psychological integration and baseline CSI and the positive bivariate association between psychological integration and membership in the hospital sample remained significant after all the program domain variables were entered. In addition, the non-significant positive bivariate relationship with education became marginal, while the positive bivariate effect of employment became non-significant. Consumer choice emerged as the only significant variable when all program domain variables were entered at the second step, and was positively related to psychological integration.

For physical integration, none of the personal history/demographic variables were related to the outcome, either at the bivariate level or at the final step. At the second step however, the positive bivariate association between physical integration and psychiatric treatment became non-significant when all variables were entered into the equation. Substance use treatment, on the other hand, retained a strong positive significant relationship with physical integration when all program domain variables were entered at the second step.

For social integration, the positive bivariate association between social integration and baseline CSI and membership in the experi-

TABLE 1
Descriptive Statistics and Correlations Among Study Variables (N = 183)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mean	.21	40.9	3.6	.20	.19	19.9	.29	2.7	3.5	.10	.25	2.9	.00	.00	.00	.00
S.D	.41	11.6	1.9	.40	.39	13.5	.46	1.5	1.1	.16	.25	.48	2.4	1.6	1.2	1.4
Female sex	—	.14	.00	-.09	.02	-.13	-.01	.02	-.02	-.17*	-.16*	.20*	.05	-.14*	.06	-.19*
Age	—	—	.22**	-.06	.27***	-.10	-.05	.04	.09	.05	-.09	.07	.09	.04	-.00	.07
Education	—	—	—	-.07	.18*	-.15*	-.15*	.04	.11	-.11	-.06	-.04	-.11	-.05	-.05	.11
Employed	—	—	—	—	-.07	-.04	.03	-.15*	.21**	-.06	-.06	-.01	.22***	.00	.16*	.14
White	—	—	—	—	—	-.02	-.07	.02	-.08	-.09	-.11	-.07	-.07	-.12	-.08	-.02
Baseline CSI	—	—	—	—	—	—	-.28**	.05	.07	.05	-.08	-.06	-.21**	.05	.21**	.17*
Hospital sample	—	—	—	—	—	—	—	-.04	-.20*	.09	.28**	.16	.23***	.02	.02	.00
Control condition	—	—	—	—	—	—	—	—	-.15	.03	.06	-.08	.00	-.02	-.20*	-.10
Consumer choice	—	—	—	—	—	—	—	—	—	-.15	-.34**	-.16	.20*	-.10	.10	.22**
Substance use treatment	—	—	—	—	—	—	—	—	—	—	.29**	.17*	.11	.41***	-.15	.01
Psychiatric treatment	—	—	—	—	—	—	—	—	—	—	—	.24**	.08	.20**	-.10	-.08
Stigma	—	—	—	—	—	—	—	—	—	—	—	—	.05	.05	.01	-.10
Psychological integration	—	—	—	—	—	—	—	—	—	—	—	—	—	.15*	.10	.06
Physical integration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.08	.03
Social integration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.08
Independence-self actualization	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* p < .05; ** p < .01; *** p < .001.
 NOTE: Sex (0 = male, 1 = female), employment (0 = not employed, 1 = employed), ethnicity (1 = white, 0 = other), and hospital sample (0 = no 1 = yes) were coded as dummy variables. Age was computed in years. Education was composed of nine categories (1 = 8th grade or less, 9 = advanced degree).

TABLE 2
Coefficients for the Regression of Community Integration Outcomes on Demographic and Program Domain Variables, n = 183^a

	Psychological Integration		Physical Integration		Social Integration		Self-Actualization	
	ΔR^2	β (SE β)	ΔR^2	β (SE β)	ΔR^2	β (SE β)	ΔR^2	β (SE β)
STEP 1	.11		.05	.07		.08		
	$F(7,182) = 2.93^{**}$		$F(7,182) = 1.26$	$F(7,182) = 1.74$		$F(7,182) = 2.19^*$		
Female		.04 (.07)		-.06 (.7)		.05 (.08)		-.15 (.08) +
Age		.09 (.08)		.07 (.07)		.04 (.08)		.09 (.08)
Education		-.14 (.08) ⁺		.02 (.07)		.02 (.08)		.13 (.08)
White		-.02 (.07)		-.10 (.07)		-.09 (.08)		-.04 (.08.)
Hospital sample		.18 (.08)*		-.09 (.08)		.06 (.09)		.12 (.09)
Employed		.03 (.08)		.11 (.08)		.12 (.08)		-.01 (.08)
Baseline CSI		-.18 (.08)*		.05 (.07)		.25 (.08)**		.19 (.08) *
STEP 2	.07		.16	.06		.04		
	$F(5,182) = 2.93^*$		$F(5,182) = 6.64^{***}$	$F(5,182) = 2.34^*$		$F(5,182) = 1.5$		
Control condition		.05 (.07)		-.04 (.07)		-.18 (.07) *		-.08 (.07)
Consumer choice		.28 (.08)***		-.05 (.08)		.03 (.08)		.15 (.08) ⁺
Substance use treatment		.10 (.08)		.37 (.07)***		-.13 (.08) ⁺		.01 (.08)
Psychiatric treatment		.07 (.08)		.10 (.08)		-.05 (.08)		-.04 (.08)
Stigma		.01 (.08)		-.04 (.07)		.02 (.08)		-.05 (.08)
R^2 for total equation	.18		.20	.17		.12		
F for total equation	$F(12,182) = 3.02^{**}$		$F(12,182) = 3.62^{***}$	$F(12,182) = 2.0^*$		$F(12,182) = 1.90^*$		

⁺p < .10; *p < .05; **p < .01; ***p < .001.
^aCoefficients for each variable are based on the second step of the complete model with all main effect variables in the equation. The change in R^2 represents the incremental increase in the proportion of variance accounted for by the set of variables at each step.

mental condition remained significant after all the program domain variables were entered. In addition, substance use treatment remained marginally significant when all program domain variables were entered at the second step, and was negatively related to social integration.

For independence–self-actualization, the positive bivariate association between social integration and gender became marginal when all other variables were entered into the equation. Baseline CSI retained a positive significant relationship, while the bivariate positive and significant effect of consumer choice was reduced to marginal significance.

DISCUSSION

This study explored community integration among individuals who have psychiatric disabilities and histories of homelessness. Using the Wong and Solomon model of community integration, we sought to identify both components of community integration and possible predictors. The factor analysis supported a comprehensive approach to the definition of community integration that includes psychological, physical, and social domains as posited by Wong and Solomon, but also suggested the existence of at least another factor that we refer to as independence/self-actualization. The regression analysis provided limited support for the second set of hypotheses related to the determinants of community integration.

Past literature has suggested that normalized housing and services that emphasize independence foster greater community integration (Hull & Thompson, 1981; Kruzich, 1985; Segal & Aviram, 1978; Van Wel et al., 2003). As hypothesized in this study, choice and scatter-site housing were significant program predictors of psychological and social integration, respectively. Having been hospitalized in a psychiatric facility prior to housing enrollment was associated with greater subsequent psychological integration. This is an interesting and perhaps counter-intuitive finding that bears further investigation. It may be that the process of prior institutionalization may affect perceived cohesion for this group. Consistent with previous studies that found an association between higher psychopathology and decreased community integration (Segal & Everett-Dille, 1980; Timko & Moos, 1998), this study found that greater psychiatric symptoms negatively impacted

psychological aspects of integration. Somewhat surprisingly, however, higher baseline symptomatology was also associated with greater integration along the social and self-actualization dimensions. It is possible that individuals who are more severely disabled are more likely to need and attract the support of others. Participants may, therefore, be indicating that they don't quite feel a sense of belonging in the community (psychological integration), but that they are somewhat more satisfied with the interactions that they experience there than persons who are less disabled.

Similarly, participation in substance use treatment services had somewhat conflicting effects on integration. Utilization of substance use treatment was found to positively influence physical integration, but there was also a trend for it to negatively impact social integration. It is possible that this finding was driven by the fact that physical integration included participation in self-help organizations as an indicator. For many participants, these self-help groups pertained to substance use treatment, such as Narcotics Anonymous or Alcohol Anonymous. This suggests that individuals who attend substance use treatment services participate in more formal organizations and thereby have greater physical integration, but perhaps at the expense of informal socializing with other community and neighborhood members (i.e., low social integration). Another possibility is that engagement in substance abuse treatment results in consumers severing ties with those in their social network who are also substance users, thereby reducing the size of their social network. Finally, our data did not support findings from previous research that linked stigma to decreased community integration. However, it is possible that stigma may have been significant in the context of other factors that were not assessed.

These findings have several implications for facilitating the community integration of individuals with psychiatric disabilities. The first is for designing housing programs so as to maximize the potential for residents' integration. For example, Aubry and Myner (1996) found that, as compared to community controls, persons with psychiatric disabilities experienced particularly low levels of social integration. Considering that our study found that a normalized residential arrangement was the only significant predictor of social integration, this would suggest that services may need to shift towards the provision of housing that most closely resembles that of the general population, for example independent scatter-site housing in the community.

Additionally, housing agencies should encourage consumers to exercise choice regarding their lives, especially since this increased sense of autonomy leads to a greater sense of belonging and well-being. The Housing First model, with its emphasis on independent housing, consumer choice and empowerment, may therefore be particularly well suited for enhancing community integration.

Second, this analysis of the Wong and Solomon model demonstrates that individual predictors can influence different dimensions of integration and that the same predictor can have disparate effects within different domains. The findings regarding substance abuse treatment, for example, suggest that the same factor can differentially influence discrete aspects of integration and that there may be a need to adjust program variables to find an ideal balance.

The Wong and Solomon model provides an excellent foundation for community integration research but needs to be expanded. While the model includes personal and program variables, it does not sufficiently account for more macro-neighborhood or community characteristics that have previously proven influential. The model should be designed to include, therefore, factors such as urban/rural location, socioeconomic background of neighborhood residents, and population density. Revisions to the model may also include the addition of a fourth domain of integration, self-actualization.

The model may also become more elaborate when findings supporting the concept of person-environment fit are taken into consideration (Caplan & Harrison, 1993). For example, Segal, Silverman, Baumohl (1989) highlighted the complex effects of different predictors even within one domain of integration. They demonstrated how individual characteristics can have a differential impact on social integration, depending on facility and neighborhood type. Likewise, type of facility was found to differentially affect integration, depending on the category of neighborhood in which residences were found. It is important that the Wong and Solomon (2002) model be expanded to reflect such potential interactions among personal, program, and community characteristics.

The study has some limitations that need to be highlighted. First, some important factors that might predict community integration are not included in the model and those factors could be equally or more important than those assessed. For example, the effects of neighborhood variables, such as neighborhood quality, building quality, crime rates and poverty were not assessed. Second, the results of the study

could have been strengthened by a longitudinal approach which could have tracked changes in community integration over time. Finally, a triangulated approach assessing program factors, utilizing observational methods in addition to participant self-reports, would have provided an opportunity to corroborate the effects of external factors.

While this multi-dimensional view of community integration has significantly advanced and enriched understanding of the concept, it still embodies some biases of the older research. Historically, consumers' communities have been equated with the neighborhoods in which they live. The more recent broad conceptualizations of community integration often continue to unnecessarily conflate community and neighborhood. Future studies should explore a more inclusive conceptualization of integration by removing the traditional geographic boundaries associated with definitions of community.

Prior studies indicate that persons with psychiatric disabilities tend to experience only low to moderate levels of integration, thereby making ongoing research into the factors that facilitate community integration essential (Gerber et al., 2003). Existing research has mostly focused on the physical aspects of integration, but Gerber and colleagues (2003) demonstrated that the degree to which forensic outpatients were integrated into the community along psychological, social, and physical dimensions was also fairly low. Further, with the exception of Aubry and Myner (1996), few studies have conducted comparisons with community residents from the general population. Research on community integration can be greatly advanced by the inclusion of neighborhood controls and consumer perspectives on defining integration. Studies of integration of individuals participating in housing programs should strive to include comparison groups of non-program neighbors. Without such neighborhood controls, investigators cannot determine which difficulties are specific to persons with psychiatric disabilities and which are common to all residents in general. Finally, there needs to be greater emphasis on direct consumer input. To our knowledge, no studies have explored the salience of the different domains of integration in consumers' lives nor the respective importance that different individuals may ascribe to various aspects of integration. It is also imperative to explore the meaning of community integration from the perspective of consumers themselves, particularly through qualitative research designs. This will lead researchers to conceptualize integration in ways that are more relevant to the lives of persons with psychiatric disabilities. Such an understanding will

further allow us to effectively tailor programs and services to meet consumers' needs for community involvement and support.

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