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# Housing Choice and Control, Housing Quality, and Control over Professional Support as Contributors to the Subjective Quality of Life and Community Adaptation of People with Severe Mental Illness

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**Abstract** This research examined two premises of supported housing: (a) that consumer choice/control over housing and support and the quality of housing are important contributors to the subjective quality of life and adaptation to community living of people with mental illness, and (b) that apartments provide mental health consumers with more choice/control over housing and support than group living arrangements. To test these two hypotheses, we collected data from participants with mental illness housed through a government initiative in Ontario, Canada. A total of 130 participants completed a baseline interview, and 91 of those participants also completed a follow-up interview 9-months later. Support was found for both hypotheses. The results were discussed in terms of the paradigm of supported housing, previous research, and implications for housing policy and program development in the community mental health sector.

**Keywords** Supported housing · Choice · Control · Quality of life

## Introduction

The central principle of the supported housing approach advocated by Carling (1995) is that consumers have choice/control over where they live, how they live, and the professional support that they receive. Supported housing aims to help individuals “choose, get, and keep” the type of housing that they want (Carling, 1995). In concrete terms, supported housing involves consumers living in regular housing (i.e., available to the general population) and in which any support is delinked or provided separately from the housing. Research on supported housing has produced two main findings. One consistent finding is that when asked about their housing preferences, the vast majority of mental health consumers indicate that they want to live in their own apartments (e.g., Nelson, Hall, & Forchuk, 2003; Tanzman, 1993). A second important finding is that supported housing can reduce homelessness and hospitalization and improve quality of life for mental health consumers (e.g., Greenwood, Schaefer-McDonald, Winkel, & Tsemberis, 2005; Rosenheck, Kaspro, Frisman, & Liu-Mares, 2003; Tsemberis, Gulcur, & Nakae, 2004). However, there is little research on the underlying rationale of supported housing, that choice/control over housing and support is critical for positive outcomes. The purpose of this paper is to examine the role of housing choice/control, housing quality, and control over professional support in contributing to the subjective quality of life and adaptation to community living of people with mental illness.

Empowerment theory (e.g., Zimmerman, 2000) provides a good fit for the supported housing approach. Empowerment theory focuses on how individuals are able to increase their perceived and actual control over

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their lives through processes and opportunities that occur at multiple levels of analysis (e.g., organizational, community). Applied to supported housing and mental health, empowerment theory suggests the following. First, supported housing (i.e., independent living of one's choosing) provides an empowering setting that should lead to psychological empowerment. According to Zimmerman (1995) one aspect of psychological empowerment is the intrapersonal component of "domain specific perceived control" (p. 588). The specific domains of perceived control in supported housing are choice/control over one's housing (i.e., choice over where and with whom one lives and control over decisions regarding daily life in one's residence, such as having guests over, meals, etc.) and control over the professional support that one receives (i.e., how often, when, and where the individual meets with her/his case worker). Second, this sense of control should be directly associated with other components of psychological empowerment, such as the behavioral component of adaptation to community living (Zimmerman, 1995), and other outcomes, such as mental health and quality of life (Nelson, Lord, & Ochocka, 2001; Parkinson, Nelson, & Horgan, 1999). In sum, empowerment theory suggests that processes related to the delivery of housing services and the housing form itself can enhance feelings of efficacy and satisfaction with one's life.

Despite the apparent importance of choice/control over housing for consumers, Parkinson et al. (1999) found in their review that very few studies have examined the hypothesis that resident perceptions of choice/control are positively related to their adaptation. Nelson, Hall, and Walsh-Bowers (1998, 1999) found that resident control was positively correlated with residents' level of independent functioning, and Srebnik, Livingston, Gordon, and King (1995) found that housing choice was positively related to housing satisfaction, residential stability, and psychological stability. In a three-year longitudinal, randomized controlled evaluation of a supported housing program, Greenwood et al. (2005) found that supported housing led to an increase in perceptions of housing choice, which, in turn, led to increased personal mastery and decreased psychiatric symptoms. Yanos, Barrow, and Tsemberis (2004) found that housing choice was positively correlated with a positive reaction to one's housing but not related to overall life satisfaction. While these studies provide some evidence supporting the contention that choice/control is related to positive outcomes, only two studies used a longitudinal design to demonstrate that choice/control add to the prediction of outcomes over and above earlier assessments of

the outcome measures (Greenwood et al., 2005; Nelson et al., 1998). Moreover, to our knowledge, no studies have examined the extent to which residents have control over their professional support, another key ingredient of supported housing, and whether control over professional support is positively related to outcomes.

Another important characteristic of housing for people with mental illness is the physical quality of the residence. Physical quality and comfort refers to the state of the floors, walls, and furniture, the height of the ceilings, noise level, odors, etc. Presumably, if mental health consumers have choice/control over their housing, they will select places to live in that are physically desirable and comfortable. In a review of the literature, Parkinson et al. (1999) reported that a few studies have found that consumer concerns about housing quality are negatively correlated with mastery and satisfaction with housing and positively correlated with negative affect and symptom distress (e.g., Nelson et al., 1998; Nelson, Wiltshire, Peirson, & Walsh-Bowers, 1995). Similar findings have been reported in a review of the literature on housing quality and mental health for non-clinical populations (Evans, Wells, & Moch, 2003). For example, in a longitudinal study of a non-mental health consumer population, Evans, Wells, Chan, and Saltzman (2000) found that housing quality was inversely related to symptom distress, after controlling for income. Moreover, studies of housing improvements have shown modest gains in mental health by those living in improved accommodations (Evans et al., 2000, 2003). Thus, research suggests that the physical quality and comfort of housing are related to psychological well-being.

Other studies have examined the types of housing that provide residents with more choice/control. Nelson et al. (1999) found that residents of apartments reported significantly more control than residents of group homes, who, in turn, had more control than residents of board-and-care homes. Tsemberis, Rogers, Rodis, Dushuttle, and Shryha (2003) found that those living in supported housing were significantly more satisfied overall with their housing and were more satisfied with the amount of choice and privacy that they had than residents living in supportive housing or community housing (i.e., congregate settings in which supports are provided as part of the housing). Similarly, in a randomized controlled trial of individuals with concurrent disorders (mental illness and substance abuse) who had been homeless, those who were assigned to independent supported housing had significantly higher levels of choice than those living in group settings that were part of a residential continuum

(Tsemberis et al., 2004). The results of these studies suggest that residents who live in supported housing, particularly in their own apartments, report more choice, control, and privacy compared with those in group living arrangements.

### Purpose of the Study and Research Questions

As has been done in many other studies of the relationship between housing attributes and consumer outcomes (see Newman, 2001 for a review of these studies), we used a correlational design with longitudinal data, not an experimental design with random assignment of consumers to different housing conditions. Two sets of questions were examined. The first set dealt with the prediction of housing quality and consumer outcomes and was tested using both cross-sectional and longitudinal data. Since a longitudinal analysis permits an examination of whether housing choice/control adds to the prediction of housing quality and outcomes over and above earlier assessments of housing quality and the outcome measures, it provides a stronger test of the relationships among the variables than a cross-sectional analysis. Such a longitudinal analysis can suggest the potential causal role of housing choice/control in influencing outcomes. The specific questions are:

- (1) Are housing choice/control and control over professional support related to housing quality at: (a) baseline, after controlling for demographic variables, and (b) follow-up, after controlling for demographic variables and baseline levels of housing quality?
- (2) Are housing choice/control, housing quality, and control over professional support related to subjective quality of life and adaptation to community living at: (a) baseline, after controlling for demographic variables, and (b) follow-up, after controlling for demographic variables and baseline levels of subjective quality of life or adaptation to community living?

The second set of research questions examined the relationship between type of housing (independent versus group housing) and housing choice/control, housing quality, and control over professional support. These questions are:

- (3) Do participants report higher levels of housing choice/control and housing quality when comparing their current housing to their previous housing?

- (4) Do participants living in apartments report higher levels of housing choice/control, housing quality, and control over professional support?

### Method

#### Research Context

The findings reported in this paper come from a comprehensive evaluation of the implementation and the outcomes of Phase I of the Ontario Mental Health Homelessness Initiative. On March 23, 1999, the government of Ontario announced a Provincial Homelessness Strategy to address the housing needs of people with mental illness who were either homeless or at risk of becoming homeless. A sum of \$23.9 million was released in Phase I of the Mental Health Homelessness Initiative to house approximately 1,000 people with serious mental illness who were homeless or at risk of becoming homelessness. Twenty (20) agencies in three large urban communities (Toronto, Hamilton, and Ottawa) received funding to create housing and supports.

In the implementation of the initiative, a wide latitude was provided to agencies by the government in terms of the housing that they could develop, leading agencies to create a variety of housing forms extending from more structured congregate living settings (e.g., large converted homes) to independent apartments acquired primarily through “head lease” arrangements. The latter involved housing agencies entering into lease arrangements with private landlords and then subletting apartments to consumers. In these cases, agencies provided a rent supplement so that consumers were not spending in excess of 30% of their income on housing. A common staff/consumer support ratio of 1:10 was funded for both congregate living and independent living programs. Admissions to housing programs were controlled by housing agencies who themselves determined whether consumers met criteria for serious mental illness and homelessness or risk of homelessness.

#### Sample Recruitment, Attrition, and Data Collection

Twelve (12) of the 20 agencies that received funding to create housing participated in the study (representing about a third of all units created under the umbrella of the initiative in the three cities). Because the housing programs were fully implemented when the evaluation

began, we recruited participants who were new to housing programs as well as participants who were residing in housing programs. Designated housing agency staff members approached consumers to inform them of the evaluation and to determine their interest in participating. If consumers expressed an interest in participating, their names and contact information were passed along to a research coordinator. The research coordinator then assigned an interviewer to contact the consumer, verify her or his interest in participating in the study, and to schedule a time for the interview.

Interviews were conducted by trained interviewers. All interviewers had an educational background or work experience in mental health, with the exception of one interviewer who was a consumer of mental health services and who was experienced in conducting interviews. At the conclusion of each baseline interview, consumers were asked if they wished to be contacted to participate in a follow-up interview. All consumers agreed and provided contact information. Nine months following the baseline interview, consumers were contacted by interviewers (in most cases, the same interviewer who had conducted the original interview) and a second interview was scheduled. These second interviews were all conducted within 4 weeks of the 9-month anniversary date. Participants were paid \$20 Canadian for each interview that they completed.

Baseline interviews were completed with 130 participants. The participants had been housed for a median of 209 days (range = 15–2,042), with over half the individuals interviewed within about 7 months after program entry. Sixty-four participants were from programs in Toronto; 37 were from programs in Hamilton; and 29 were from programs in Ottawa. Ninety-seven participants were living in apartments and 33 were living in congregate settings. As previously noted, agencies were provided a great deal of leeway in the development of their programs. To better describe the programs that were developed, we categorized them based on the work of Lipton, Siegel, Hannigan, Samuels and Baker (2000). These categorizations were reviewed and verified by the participating agencies. At baseline in this study, 21 individuals were living in high intensity programs characterized by a high level of structure and less opportunity for independence; 20 individuals were living in medium intensity programs characterized by a moderate level of structure and independence; and 89 individuals were living in programs characterized by low intensity in terms of a low level of structure and greater opportunities for independence. Table 1 provides a description of participants on demographic and clinical characteristics for the baseline and follow-up samples. We include infor-

mation on both samples, because we conducted cross-sectional analyses with only the baseline sample and longitudinal analyses with those who completed both the baseline and follow-up interviews.

We were able to complete 9-month follow-up interviews with 91 participants for a sample attrition rate of 30%. Nineteen of the participants moved and could not be located, and 20 participants either refused the interview or could not be interviewed within the allotted time period (e.g., too ill at the time of the interview, missed several interview appointments). We compared the 91 participants who completed both interviews with the 39 participants who completed only the baseline interview to determine if those who dropped out of the study differed in some way at baseline from those who stayed in the study. Using *t*-tests for continuous variables and  $\chi^2$  tests for categorical variables, we found no significant differences between the two groups on the following variables at baseline: sex, age, marital status, diagnosis, level of reported symptom distress, psychiatric hospitalization in the 9 months prior to entering the housing program, type of previous residence, housing quality, housing choice/control, subjective quality of life, and adaptation to community living. Thus, the reduced sample at follow-up was no different than the original sample.

## Measures

### *Housing Choice/control*

This 23-item scale was constructed from Srebnik et al.'s measure. A total of 20 items (e.g., How much choice do you have over whether you can use alcohol in your current residence?) are rated on a 5-point scale from "no choice at all" to "a great deal of choice." The remaining three items (e.g., How much did others influence you in your choice over the specific place you moved into and live in now?) are rated on a 5-point scale from "others made the choice" to "I made the choice on my own." Participants rated these items for their previous residence ( $\alpha = .94$ ), their residence at the baseline interview ( $\alpha = .86$ ), and their residence at the follow-up interview ( $\alpha = .78$ ). An average was calculated across the 23 items for the total, which can range from 1 to 5 with higher scores reflecting a greater amount of perceived choice/control in relation to housing.

### *Housing Quality*

We used Toro et al.'s (1997) 5-item measure of housing quality. The five items (comfort, safety, spaciousness, privacy, and overall quality) are rated on a 4-point

**Table 1** Characteristics of the sample at baseline and 9-month follow-up

Characteristics	Baseline mean (SD) or <i>n</i> (%) ( <i>n</i> = 130)	9-month follow-up mean (SD) or <i>n</i> (%) ( <i>n</i> = 91)
Age	41.06 (11.66)	42.16 (11.14)
Number of homeless episodes over past 5 years	.88 (1.27)	.83 (1.15)
Number of moves over past 5 years	3.94 (2.75)	3.76 (2.50)
At least one episode of homelessness over the past 5 years	56 (46.7%)	37 (45.7%)
<i>Gender</i>		
Male	75 (57.7%)	50 (54.9%)
Female	55 (42.3%)	41 (45.1%)
<i>Marital status</i>		
Single	86 (66.7%)	61 (67.0%)
Married/cohabiting	3 (2.3%)	3 (3.3%)
Separated/divorced/widowed	40 (31.0%)	27 (29.7%)
<i>Diagnosis</i>		
Schizophrenia	57 (51.4%)	39 (50.6%)
Mood disorder	38 (34.2%)	26 (33.8%)
Personality disorder	6 (5.4%)	4 (5.2%)
Anxiety disorder	5 (4.5%)	4 (5.2%)
Other	3 (2.7%)	2 (2.6%)
Concurrent disorder (mental illness and substance abuse)	35 (31.6%)	23 (36.5%)
Dual diagnosis (mental illness and developmental disability)	4 (3.6%)	4 (8.5%)
<i>Psychiatric hospitalization in 9 months prior to program entry</i>		
None	91 (78.4%)	73 (81.1%)
One	24 (20.7%)	16 (17.7%)
Two	1 (.9%)	1 (1.2%)
<i>Legal involvement in 9 months prior to program entry</i>		
Yes	16 (13.1%)	14 (15.4%)
No	106 (86.9%)	77 (84.6%)
<i>Incarceration in 9 months prior to program entry</i>		
Yes	7 (5.7%)	6 (6.6%)
No	115 (94.3%)	85 (93.4%)
<i>Previous residence</i>		
Homeless	39 (32.8%)	24 (28.9%)
Independent house/apartment	35 (29.4%)	26 (31.3%)
Supervised facility	23 (19.3%)	17 (20.5%)
Assisted/supported	10 (8.4%)	10 (12.0%)
Treatment facility	8 (6.7%)	2 (2.4%)
Supervised non-facility	3 (2.5%)	3 (3.6%)
Correctional institute	1 (.8%)	1 (1.2%)

scale from “very bad” (0) to “very good” (3). Participants rated these items for their previous residence ( $\alpha = .85$ ), their residence at the baseline interview ( $\alpha = .75$ ), and their residence at the follow-up interview ( $\alpha = .76$ ). An average was calculated across the five items for the total score which can range from 0 to 3 with higher scores representing higher levels of housing quality.

#### *Control Over Professional Support*

We constructed a 3-item measure of the amount of control that participants have over professional support workers. The three items are: “How much

control do you have over how often they come to help you or work with you?”; “How much control do you have over the kinds of things they help you with or work with you on?”; and “How much control do you have over whether they are available to help you or work with you when you need them the most?” These items are rated on a 4-point scale from “no control” (1) to “quite a bit of control” (4). Participants rated these at the baseline interview ( $\alpha = .53$ ), and the follow-up interview ( $\alpha = .74$ ). An average was calculated across the three items for a total score which can range from 1 to 4 with higher scores indicative of a higher level of control.

### Subjective Quality of Life

We constructed a 14-item measure from the subjective quality of life subscales of Lehman, Kernan, and Postrado's (1997) Quality of Life Interview—Brief Version. We combined the following sub-scales: global life satisfaction, living arrangements, daily activities, social relations, and safety. In these subscales, respondents are asked about their level of satisfaction with a particular aspect of their life in these domains. Responses are given on a 7-point scale that ranges from “terrible” (1) to “delighted” (7).

We used a total scale across the mentioned subscales for several reasons. First, the subscales that we chose were ones that we believed could conceivably be related to housing choice/control, housing quality, and control over professional support. Second, the overall alphas for this total score were high (baseline interview,  $\alpha = .86$ , follow-up interview,  $\alpha = .92$ ). Third, the regression analyses for this total score yielded the same pattern of results as those for the individual subscales. In line with Lehman et al.'s (1997) scoring of subjective quality of life subscales, an average score was calculated on the items making up all of the subscales representing the total score. Potential total scores can range from 1 to 7 with higher scores reflecting higher levels of quality of life.

### Community Adaptation

Community adaptation was measured using the Multnomah Community Ability Scale (MCAS) (Barker, Barron, McFarland, & Bigelow, 1994). The MCAS produces four subscale scores (functioning, adjustment to living, social competence, and behavioral problems), as well as a total score. Each of the 17 items is rated on a 5-point scale. A sample item is: “How well does the consumer perform independently in day to day living?” Responses can range from “almost never performs independently” (1) to “almost always performs independently” (5). In this study, the total MCAS score was used. The measure was completed either directly by each participant's primary case workers, or it was adapted into an interview format to be

completed by case workers over the phone at baseline ( $\alpha = .87$ ) and follow-up ( $\alpha = .84$ ). Potential total scores can range from 17 to 85 with higher scores indicative of higher levels of community adaptation.

### Type of Housing

Housing in which study participants lived was differentiated according to whether it was an apartment in which participants lived alone or with someone of choice who may or may not be a consumer or group living in which participants lived in a congregate living situations with other consumers. Participants in this study were not randomly assigned to these two types of housing. We compared those participants living in independent housing and those living in group housing and found no significant differences at baseline on the following variables: age, number of homeless episodes over the past 5 years, number of moves over the past 5 years, at least one episode of homelessness over the past 5 years, gender, marital status, diagnoses of personality disorder, anxiety disorder, other disorders, concurrent disorder (mental illness and substance abuse), dual diagnosis (mental illness and developmental disability), a measure of symptom distress, psychiatric hospitalization in the 9 months prior to entering the housing program, legal involvement in the 9 months, prior to entering the housing program, incarceration in the 9 months prior to entering the housing program, type of previous residence, housing quality, housing choice/control, subjective quality of life, and adaptation to community living. The only significant difference that we found between the groups were that residents of apartments were more likely to have a diagnosis of mood disorder and less likely to have a diagnosis of schizophrenia than those in group living.

### Results

Table 2 presents the mean and standard deviations of the variables at baseline and 9-month follow-up examined in the study.

**Table 2** Means and standard deviations on variables in the study at pre-baseline, baseline and 9-month follow-up ( $n = 91$ )

Variable	Pre-baseline mean (SD)	Baseline mean (SD)	9-month follow-up mean (SD)
Housing choice/control	2.74 (1.12)	3.64 (0.78)	3.58 (0.80)
Housing quality	1.54 (0.90)	2.54 (0.49)	2.40 (0.53)
Control over professional support		1.81 (0.69)	1.66 (0.71)
Subjective quality of life		5.01 (0.87)	4.97 (0.98)
Community adaptation		67.39 (12.42)	70.16 (9.79)

*Research Question 1—Are Housing Choice/Control and Control Over Professional Support Related to Housing Quality?*

To determine whether the measures of housing choice/control and/or control over professional support were related to the measure of housing quality at baseline, we performed a multiple regression analysis, entering demographic variables (age, education, mari-

tal status [dummy coded], and gender [dummy coded]), and housing choice/control and control over professional support. As can be seen in Table 3, housing choice/control was the only significant predictor of housing quality, with the total model accounting for 6% of the variance.

To ascertain whether the measures of housing choice/control and control over professional support

**Table 3** Multiple regression analyses of housing variables, control over professional support, subjective quality of life, and adaptation to community living

Dependent variables	Independent variables	Unstandardized b (Standard error)	Standardized B	t, overall F, adjusted R <sup>2</sup>
Housing quality (T1)	Marital status	-.22 (.56)	-.04	$t(120) = -.39$
	Age	.00 (.02)	-.01	$t(120) = .07$
	Gender	.50 (.47)	.10	$t(120) = 1.06$
	Education	-.13 (.25)	-.05	$t(120) = -.54$
	Housing choice/control (T1)	.80 (.27)	.27	$t(120) = 2.93^b$
	Control over professional support (T1)	.25 (.34)	.07	$t(120) = .72$
				$F(6, 115) = 2.23^a$ adjusted R <sup>2</sup> = .06
Housing quality (T2)	Marital status	1.05 (.63)	.19	$t(80) = 1.66$
	Age	.02 (.03)	.07	$t(80) = .60$
	Gender	-.90 (.54)	-.17	$t(80) = 1.65$
	Education	-1.18 (.28)	-.06	$t(80) = .64$
	Housing quality (T1)	.39 (.10)	.37	$t(80) = 3.78^c$
	Housing choice/control (T2)	1.15 (.34)	.35	$t(80) = 3.35^c$
Control over professional support (T2)	.34 (.39)	.09	$t(80) = .88$	
				$F(7, 74) = 5.34^c$ adjusted R <sup>2</sup> = .27
Subjective quality of life (T1)	Marital status	.02 (.18)	.01	$t(120) = .13$
	Age	.00 (.01)	.04	$t(120) = .45$
	Gender	.01 (.15)	.01	$t(120) = .07$
	Education	.00 (.08)	.00	$t(120) = .04$
	Housing choice/control (T1)	.23 (.09)	.22	$t(120) = 2.55^a$
	Housing quality (T1)	.14 (.03)	.40	$t(120) = 4.78^c$
Control over professional support (T1)	.10 (.11)	.07	$t(120) = .88$	
				$F(7, 114) = 6.57^c$ adjusted R <sup>2</sup> = .24
Subjective quality of life (T2)	Marital status	.34 (.18)	.16	$t(80) = 1.87$
	Age	.01 (.00)	.10	$t(80) = 1.21$
	Gender	.23 (.15)	.12	$t(80) = 1.49$
	Education	.06 (.08)	.06	$t(80) = .78$
	Subjective quality of life (T1)	.36 (.09)	.33	$t(80) = 4.05^c$
	Housing choice/control (T2)	.23 (.11)	.19	$t(80) = 2.22^a$
Housing quality (T2)	.16 (.03)	.42	$t(80) = 4.99^c$	
Control over professional support (T2)	.07 (.11)	.05	$t(80) = .64$	
				$F(8, 73) = 14.76^c$ adjusted R <sup>2</sup> = .58
Adaptation to community living (T2)	Marital status	-.19 (2.40)	-.01	$t(68) = .08$
	Age	-.03 (.09)	-.04	$t(68) = .32$
	Gender	-1.3 (2.05)	-.07	$t(68) = .66$
	Education	1.62 (1.06)	.15	$t(68) = 1.53$
	Adaptation to community living (T1)	.43 (.08)	.53	$t(68) = 5.31^c$
	Housing choice/control (T2)	1.44 (1.37)	.12	$t(68) = 1.05$
Housing quality (T2)	.21 (.41)	.06	$t(68) = .51$	
Control over professional support (T2)	2.62 (1.44)	.19	$t(68) = 1.82$	
				$F(8, 61) = 5.96^c$ adjusted R <sup>2</sup> = .37

<sup>a</sup> $P < .05$ ; <sup>b</sup> $P < .01$ ; <sup>c</sup> $P < .001$



were related to the measure of housing quality at follow-up, we performed a multiple regression analysis, entering the demographic variables, the baseline measure of housing quality, and the follow-up measures of housing choice/control and control over professional. Both housing quality at baseline and housing choice/control at follow-up were significant predictors of housing quality at the follow-up (see Table 2). Greater housing quality at baseline and more housing choice/control were associated with greater housing quality at follow-up. This model accounted for 27% of the variance in housing quality at follow-up. Housing quality declined significantly from baseline to follow-up,  $t(85) = 2.17$ ,  $P < .05$  (see Table 2).

*Research Question 2—Are Housing Choice/Control, Housing Quality, and Control over Professional Support Related to Subjective Quality of Life and Adaptation to Community Living?*

To determine whether the measures of housing choice/control, housing quality, and/or control over professional support were related to the measure of subjective quality of life at baseline, we performed a multiple regression analysis, entering demographic variables, and the baseline measures of housing choice/control, housing quality, and control over professional support. Both housing choice/control and housing quality were significantly related to subjective quality of life at baseline (see Table 3). More housing choice/control and greater housing quality was related to higher levels of subjective quality of life at baseline. While control over professional support was not significant in the regression analysis, the simple correlation between control over professional support and subjective quality of life was significant,  $r = .20$ ,  $P < .05$ , in the direction of greater control of professional support being associated with a higher level of subjective quality of life. The total model accounted for 24% of the variance. We also examined whether demographic variables or the measures of housing choice/control, housing quality, and/or control over professional support would be related to adaptation to community living at baseline and found no significant predictors (this model is not depicted in Table 3).

To ascertain whether the measures of housing choice/control, housing quality, and/or control over professional support were related to the measure of subjective quality of life at follow-up, we performed a multiple regression analysis, entering the demographic variables, the baseline measure of subjective quality of life, and the follow-up measures of housing choice/control, housing quality, and control

over professional support. Subjective quality of life at baseline and housing choice/control and housing quality at follow-up were significant predictors of subjective quality of life at the follow-up (see Table 3). Higher levels of subjective quality of life at baseline and greater housing choice/control and housing quality at follow-up were related to higher levels of subjective quality of life at follow-up. While control over professional support was not significant, the simple correlation between control over professional support and subjective quality of life was significant,  $r = .30$ ,  $P < .01$ , in the direction of greater control over professional support being associated with higher levels of subjective quality of life. The total model accounted for 58% of the variance in the model. Subjective quality of life did not change significantly from baseline to follow-up (see Table 2).

Adaptation to community living at baseline was a significant predictor of adaptation to community living at follow-up (see Table 3). Control over professional approached statistical significance,  $P < .08$ . The simple correlations between greater adaptation to community living at follow-up and more housing choice/control at follow-up,  $r = .28$ ,  $P < .05$ , greater housing quality at follow-up,  $r = .25$ ,  $P < .05$ , and more control over professional support at follow-up,  $r = .28$ ,  $P < .05$ , were significant. The total model accounted for 37% of the variance in the model. Adaptation to community living increased significantly from baseline to follow-up,  $t(72) = 2.15$ ,  $P < .05$  (see Table 2).

*Research Question 3—Do Participants Report Higher Levels of Housing Choice/Control and Housing Quality When Comparing Their Current Housing to Their Previous Housing?*

To examine whether participants experienced more choice/control from their previous residence (or lack thereof) and their current residence, we used mixed model ANOVAs with time period as the repeated factor and housing type (previous housing versus current housing) as the between factor with housing choice/control and housing quality as the dependent variables. We tested the sphericity assumption for repeated measures data with Mauchly's test. When this assumption was violated, we tested the hypotheses with more conservative degrees of freedom, using the Greenhouse–Geisser correction. There was a significant improvement from previous residence to baseline on both the measure of housing choice/control,  $F(1.68, 142.75) = 26.49$ ,  $P < .001$ , and housing quality,  $F(1.39, 114.03) = 41.33$ ,  $P < .001$ .

**Table 4** Means and standard deviations for housing choice/control, housing quality, and control over professional support measures by type of housing at different time periods

Housing characteristic	Type of housing	Time period	
		Baseline	9-month follow-up
Housing choice/control	Apartment ( $n = 65$ )	M = 3.75 (SD = .77)	M = 3.76 (SD = .63)
	Group living ( $n = 22$ )	M = 3.23 (SD = .70)	M = 3.07 (SD = .97)
Housing quality	Apartment ( $n = 63$ )	M = 2.51 (SD = .56)	M = 2.43 (SD = .54)
	Group living ( $n = 21$ )	M = 2.62 (SD = .30)	M = 2.30 (SD = .52)
Control over professional support	Apartment ( $n = 63$ )	M = 3.26 (SD = .65)	M = 3.46 (SD = .51)
	Group living ( $n = 19$ )	M = 2.95 (SD = .69)	M = 2.89 (SD = 1.05)

*Research Question 4—Do Participants Living in Apartments Report Higher Levels of Housing Choice/Control, Housing Quality, and Control over Professional support than Participants Living in Group Arrangements?*

Table 4 presents the housing variables broken down by housing type. Using mixed model ANOVAs with time period as the repeated factor and housing type (apartment versus group living) as the between factor with housing choice/control, housing quality, and control over professional support, as the dependent variables, we found that participants living in apartments reported higher levels of housing choice/control,  $F(1, 85) = 15.95$ ,  $P < .001$ , and higher levels of control over professional support,  $F(1, 80) = 11.90$ ,  $P < .001$ , but not higher levels of housing quality, than those residing in group living arrangements.

## Discussion

This research examined two premises of supported housing: (a) that consumer choice/control over housing and support and the quality of housing are important for the subjective quality of life and adaptation to community living of people with mental illness, and (b) that apartments provide mental health consumers with more choice/control over housing and support than group living arrangements. Data were collected from participants with mental illness who were housed through a government initiative in Ontario. The findings provide some support for the central principles of a supported housing approach that consumers should have choice and control over where they live, how they live, and the professional support that they receive.

The first set of questions examined the relationships among measures of housing choice/control, housing quality, control over professional support, subjective quality of life, and adaptation to community living. Consistent with empowerment theory, it was hypothesized that increased choice/control would be associated with greater housing quality and higher levels of

subjective quality of life. The findings show that among these participants, perceptions of housing quality at both baseline and follow-up were related to perceptions of housing control and choice. Those who perceived themselves as having had more choice/control over their housing were also more likely to perceive their housing as being of greater quality. It is hypothesized that the ability to exercise more choice over where they lived would have allowed participants to select better quality housing. An alternative explanation is that greater perceptions of choice/control over housing themselves led to increased attachment to housing and an improved evaluation of its quality. A final possibility is that the greater choice/control that individuals had over their housing may have enabled them to maintain their housing to their own satisfaction. Since housing quality did decrease from baseline to follow-up, the importance of housing choice/control for maintaining quality housing is underscored.

Consistent with some previous research (Nelson et al., 1998, 1999; Srebnik et al., 1995), the findings of this study also show that perceptions of housing choice/control are positively associated with perceptions of quality of life at both baseline and follow-up. Also, consistent with previous research (Nelson et al., 1995, 1998), participants who reported a greater measure of housing quality were also more likely to report greater subjective quality of life at both baseline and follow-up. The increased perceptions of quality of life are believed to be derived from both the improved material quality of their lives (i.e., housing quality), as well as from the psychological benefits derived from exercising more choice/control in their lives. Moreover, the finding that housing quality and housing choice/control added to the prediction of subjective quality of life over and above baseline levels of subjective quality of life strengthens the argument that both quality and choice are important contributors to quality of life. The relationships between these housing variables and subjective quality of life also highlight the critical role of having good housing (i.e., “a home of their own”) in the lives of people with severe mental illness.

We also found that control over professional support was marginally related to adaptation to community living at follow-up ( $P < .08$ ). Moreover, the simple correlations between control over professional support at follow-up and adaptation to community living at follow-up and subjective quality of life at follow-up were significant. This suggests that control over professional support may be important for adaptation to community living, which did increase significantly over time in this sample. These findings have not been reported previously in the literature, but are consistent with research that shows that more positive relationships between case managers and consumers are related to more positive outcomes (Priebe & Gruyters, 1993). As well, previous research has identified abilities related to providing consumer-centered services as being core competencies for service-providers working in community mental health (Aubry, Flynn, Gerber, & Dostaler, 2005). The extent to which consumers perceive that they have control over the support they receive from service-providers is likely an important element of the perceived quality of the relationship with service-providers. It is important to note that adaptation to community is a staff-rated outcome, while subjective quality of life is a consumer self-reported outcome. Taken together, these findings suggest that housing choice/control, housing quality, and control over professional support are all important contributors to positive outcomes for consumers.

The second set of questions examined how housing choice/control, housing quality, and control over professional support were related to different housing types. Consistent with the principles of the supported housing approach, it was hypothesized that apartments would provide consumers with greater choice/control over their housing as well as greater control over professional sources of support, than would congregate housing settings. In line with previous research (Nelson et al., 1999; Tsemberis et al., 2004), the findings showed that although there were no differences in perceptions of housing quality, consumers living in apartments reported higher levels of housing choice/control and control over professional support. Moreover, we found that when we examined a wide array of baseline variables, residents of apartments and group living arrangements only differed from one another on the diagnoses of mood disorder and schizophrenia. While these diagnoses are confounded with housing type and could account for the differences in perceptions regarding choice/control, overall the two groups of participants were quite similar on a number of other variables. We also found that participants' perceptions of housing choice/control and housing quality

improved significantly from their previous to their current housing, thus underscoring the importance of providing housing and support to people with mental illness who have had unstable housing histories (Rosenheck et al., 2003; Tsemberis et al., 2004).

We believe that these findings represent an important contribution to the growing body of research on the significance of housing of an empowering nature on the lives of people with serious mental illness. As noted in the introduction to this paper, there is little research on the underlying rationale of supported housing, that choice/control over housing and support is critical for quality of life outcomes. Our findings suggest that how we deliver housing services and the type of housing that is provided are both important. By promoting choice over where and with whom people live, both subjective quality of life and community functioning can be improved. In addition, this study is unique in its demonstration that apartments provide consumers with more control over professional sources of support than do congregate settings. The study is also one of the few that has employed a longitudinal design examining prospectively the relationships among these variables at a baseline and a follow-up measurement.

Research on this topic is timely as many jurisdictions, such as Ontario, are debating how housing and support resources can be most effectively deployed (Sylvestre et al., 2005). Evidence of the importance of consumer choice/control are important for promoting the shifting of existing resources and the directing of new resources toward housing systems that foster greater self-determination and independence. Notably case studies of congregate housing programs in Ontario (Lord, Ochocka, Czarny, & MacGillivray, 1998; Pyke & Lowe, 1996) have demonstrated that they can be shifted toward a supported housing approach. There are, however, a number of other factors in most housing systems that also limit choice and control and that should be addressed. They include a lack of housing resources that create long waiting lists for housing, a lack of options, and inadequate income support programs that force consumers to accept whatever is available at the low end of the rental housing market. They may also include approaches to housing and support that are more therapeutic and controlling in their orientation rather than seeking to foster empowerment and independence.

There are some limitations to this study that should be noted. First, individuals in this study were not randomly assigned to the different types of housing. There may be some important unchecked differences between the individuals housed in the different types of housing that have introduced biases to the study or perhaps

diagnoses of mood disorder or schizophrenia are somehow related to perceptions of one's housing environment. However, a recent study in which participants were randomly assigned to independent apartments and group living found that residents in these two different types of housing did differ significantly from one another in their perceptions of housing choice/control (Tsemberis et al., 2004). Second, a portion of the participants housed in this study had been housed for several months prior to participating in the study, possibly masking relationships between the variables that were studied. It would have been preferable to conduct baseline interviews with all participants immediately after they entered their new housing. A third limitation is the use of self-report measures to assess both housing and support attributes (housing choice/control, housing quality, and control over professional support) and consumer outcomes (subjective quality of life). When self-report measures are used to assess both attributes and outcomes, there is the problem of method variance. That is, participants may tend to rate items on the different scales similarly (either positively or negatively) based on personality or dispositional variables. One check that we had on this problem is that we did employ one staff-rated outcome measure, adaptation to community living. The pattern of results, while less strong than those for the self-reported outcomes, were similar across the staff-rated and self-reported outcomes. A fourth limitation was the rating of housing choice and housing quality retrospectively for previous residence prior to entering into the housing program. Consumers may be influenced in rating their previous housing by their current housing. Fifth, the size of the subgroup of consumers living in congregate housing was small ( $n = 22$ ), requiring relatively large effect sizes to be present in order to find differences between consumers living in congregate housing and those living in apartments. Finally, the type of housing provided is related to the philosophy and practices of the organizations that provide such housing. Thus, it is unclear if it is specific program characteristics or broader organizational qualities that are important for consumer outcomes.

Housing is critical for increasing the quality of life and the community integration of people with serious mental illness. The central principle of the supported housing approach advocated by Carling (1995) is that consumers have choice and control over where they live, how they live, and the professional support that they receive. This research examined two premises of supported housing: (a) that consumer choice/control over housing and support and the quality of housing are important for the subjective quality of life and

community adaptation of people with mental illness, and (b) that apartments provide mental health consumers with more choice and control over housing and support than group living arrangements. The findings of the study add to a growing body of evidence showing the importance of empowering housing on the lives of people with serious mental illness. The findings provide support for the central principles of a supported housing approach.

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