HHS Public Access

Author manuscript

J Drug Issues. Author manuscript; available in PMC 2021 December 11.

Published in final edited form as:

J Drug Issues. 2020 April 01; 51(2): 253–267. doi:10.1177/0022042620978393.

Recovery Home Environment Characteristics Associated with Recovery Capital

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Abstract

Background: Recovery capital refers to internal and external resources that facilitate recovery from alcohol and drug disorders. Examples include support from friends and family, access to health and other services, stable housing and finances, and internal assets, such as self-esteem and motivation. Recovery capital is receiving increased emphasis as an integral component of addiction services. However, there are a limited number of studies assessing recovery capital in different settings.

Methods: The current study assessed recovery capital among 363 individuals entering sober living recovery homes (SLHs) and showed how recovery capital was associated with individual and social environment characteristics of the houses. Individual characteristics were assessed shortly after residents entered the house (mean=17 days, sd=9.0). Approximately one month later, individuals were interviewed about their perceptions of the social environment within the household. We hypothesized residents' perceptions of social model characteristics within the household would be associated with higher recovery capital.

Results: Study findings showed individual characteristics associated with recovery capital included motivation, support from friends and family, and 12-step involvement. Perceptions of the social environment assessed by four subscales on the Community Oriented Program Evaluation Scale and a measure of social model characteristics were correlated with recovery capital. Regression analyses controlling for individual characteristics showed modest, but consistent associations with recovery capital.

Conclusion: Even after relatively short periods of time in SLHs, resident perceptions of the social environment show associations with recovery capital. Additional research is needed to understand causal dynamics of this relationship and associations with outcome.

Keywords

recovery home; social model; sober living house; COVID-19; virus mitigation

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Over the past decade there has been increasing recognition that for many individuals, recovery from alcohol and drug disorders requires more than acute care interventions (McKay et al., 2009). In an effort to understand broader, potentially longer-term influences on recovery, researchers have examined the role of recovery capital (Cloud & Granfield, 2008). The term recovery capital has been defined in terms of internal and external resources

that can be mobilized to help individuals address alcohol, drug, and other problems. Recovery capital includes physical, environmental, economic, social, and psychological assets. Examples include support from family and friends, support from recovering peers, access to healthcare, neighborhoods with low crime rates and available public services, stable housing, and a high sense of self-esteem and self-efficacy. Recovery capital can be negatively affected by detrimental factors, such as poor health, poverty, homelessness, and incarceration (Hennessy, , 2017).

Recovery capital can differ not only between individuals, but also within an individual at various time points (White, 2009). Severity of alcohol and drug problems was felt to require different levels of recovery capital at different time points. To measure recovery capital throughout the course of addiction and recovery, White (2009) developed a broad recovery capital scale consisting of 35 items that assessed core aspects of recovery capital (e.g., social support, access to healthcare and other services, living environment, psychological assets, and neighborhood characteristics).

Social Model Recovery

While recovery capital is increasingly emphasized by various treatment and recovery services, the amount of focus it receives varies among different approaches. For example, social model recovery (Borkman, Kaskutas, & Barrows, 1999) emphasizes peer support and peer involvement as core elements in the recovery process. Addiction and recovery are viewed from a perspective that emphasizes reciprocal support between the individual and his or her social environment (Wright, 1990). Therefore, creating an environment that is rich in recovery capital is essential in this approach. Social model recovery emphasizes experiential learning gained from sharing personal experiences with addiction and recovery. In addition to enhancing peer support capital, interpersonal learning helps by informing others how to access recovery capital assets in the community, such as health, mental health, housing, and employment services (Polcin & Henderson, 2008; Polcin & Korcha, 2017; Polcin, Korcha, & Bond, 2015).

Social model recovery has received limited attention from researchers. One of the few studies conducted involved an effort to quantify its essential elements. The Social Model Philosophy Scale (SMPS) (Kaskutas, Greenfield, Borkman, & Room, 1998) was designed to describe the physical characteristics, recovery philosophy, and operational structures of substance abuse programs. The scale measures the extent to which programs adhere to social model philosophy using six subscales: physical environment, staff role, authority base, view of dealing with substance abuse problems, governance, and community orientation. One goal is to provide an overall score that depicts whether a program meets criteria to be described as social model. However, Mericle and colleagues (Mericle, Miles, Cacciola, & Howell, 2014) studied recovery homes in Philadelphia and found there was wide variation of subscale scores. For example, most directors or managers rated their homes high on recovery philosophy but low on peer governance.

Using the SMPS, data are generated by interviewing program directors or managers who oversee delivery of services. Missing in these assessments are the perceptions and

experiences of the persons receiving services. In addition, data from the SMPS primarily reflect how the program is designed, not what actually occurs in terms of social model activities and behaviors among persons in the program. One important goal of the current study was to examine the extent to which social model activities and behaviors were prevalent from the perspectives of individuals residing in sober living recovery homes.

Sober Living Houses

The origins of social model recovery are based largely on the operations of sober living houses (SLHs), which emerged in California during the late 1940's (Wittman & Polcin, 2014). At that time, Alcoholics Anonymous (AA) was expanding, particularly in urban areas such as Los Angeles. Some persons attending these meetings needed a stable, affordable alcohol- and drug-free living environment that supported recovery. AA members who had achieved stable recovery and had sufficient resources provided temporary shelter to some of those in need of housing. Over time, rooms were rented out to these individuals and eventually entire houses were rented to groups of persons seeking an affordable living environment that supported recovery. These residences eventually became known as sober living houses and they expanded rapidly over subsequent decades.

Because SLHs are not licensed or required to report their existence to any agency or local government, it is difficult to ascertain their exact numbers. However, in California, Sober Living House Associations such as the Sober Living Network (SLN) and California Consortium of Addiction Programs and Professionals (CCAPP) report a combined membership of nearly 800 houses in the state (Wittman & Polcin, 2014). The National Alliance of Recovery Residences (NARR), which includes a broad range of different types of recovery homes in the U.S., reports a membership of 25,000 persons who are living in over 2,500 certified recovery residences (National Association of Recovery Residences, 2012). Another type of recovery home, Oxford Houses (O'Neill, 1990), is popular outside California, with over 1,200 homes nationwide. Factors such as the deinstitutionalization of criminal justice institutions suggest the demand for alcohol- and drug-free living environments will only increase in the years ahead (Douglas L. Polcin, 2018).

SLHs provide alcohol- and drug-free living arrangements for a variety of persons in different circumstances, including those who recently completed residential treatment, are released from incarceration, are attending outpatient treatment programs, and are seeking assistance outside formal treatment (Polcin, Mericle, Howell, Sheridan, & Christensen, 2014). SLHs do not provide group counseling, case management, treatment planning, or a structure of daily activities. Instead, they use a social model approach to recovery that emphasizes peer support and peer involvement in how the houses are operated (Wittman, Jee, Polcin, & Henderson, 2014). House operations are overseen by a house manager, who is typically a person in recovery and sometimes a person who has lived in a SLH as a resident. House managers ensure rent and bills are paid, monitor compliance with house rules, and arrange for repairs as needed. However, there is variability in how involved managers are in supporting the recovery of residents. Recent survey data suggests some managers spend considerable time and effort supporting the recovery of residents while others see their role as primarily administrative (Polcin, Mahoney, & Mericle, 2020). Most SLHs require

residents to attend 12-step meetings or other types of peer support groups. Residents are required to pay rent and utilities, but costs are reduced by requiring shared bedrooms. In addition to making the homes more affordable, shared rooms reduce the isolation that can lead to relapse.

Outcomes for SLH Residents

Outcome evaluations of SLHs are encouraging. An evaluation of two organizations operating 20 SLHs examined the entire sample of all persons entering the houses and showed residents made improvements in multiple areas of functioning over 18 months, including reduced substance use, lower severity of alcohol and drug problems, increased employment, lower severity of legal problems and reduction in homelessness (Polcin & Korcha, 2017; Polcin, Korcha, Bond, & Galloway, 2010a; Polcin, Korcha, Bond, & Galloway, 2010b). Factors associated with better outcomes tended to support the social model emphasis on peer support. For example, favorable outcomes were associated with higher levels of involvement in 12-step recovery groups and fewer alcohol and drug users in the social network.

In another study of SLH residents on probation or parole, results showed improvements at 12-month follow-up on measures of substance abuse, severity of legal problems, HIV risk, and employment (Polcin, Korcha, Witbrodt, Mericle, & Mahoney, 2018). In addition, it was found that criminal justice outcomes in SLHs could be improved through implementation of a new intervention, motivational interviewing case management (MICM). However, latent class analyses showed that persons with lower levels of recovery capital did not benefit from the intervention, whereas residents with higher levels derived significant benefit, including lower drug use (Witbrodt, Polcin, Korcha, & Li, 2019).

Purpose

The Witbrodt et al. study (2019) showed that recovery capital in SLHs is important because it is associated with better outcomes. However, we currently do not know if recovery capital is primarily associated with individual factors, or whether characteristics of the social environment within the houses matter as well. Recovery home providers are therefore uncertain about the types of social environments they should be developing to maximize recovery capital.

One goal for the current study was to assess how recovery capital is associated with individual characteristics of residents entering SLHs, such as motivation, psychiatric severity, support from friends and family, and involvement in 12-step groups. However, the primary goal was to assess our hypothesis that recovery capital would be associated with measures of the social environment, particularly those that are consistent with social model recovery (e.g., peer support, resident involvement in house operations, practical help utilizing services in the local community, and the practice of 12-step recovery principles).

Methods

Sample

Study participants consisted of persons residing in 45 SLHs in Los Angeles. Twenty-one houses were for men, 11 for women, and 13 for all genders. Houses were selected to include low (24%), medium (49%) and high (26%) SES neighborhoods. To provide a broad depiction of all residents entering the houses and maximize generalization, we employed very few inclusion/exclusion criteria. Inclusion criteria included age 18 or older, able to provide informed consent, competed a baseline interview, and had been a resident in the house for at least one month.

Procedures

Study participants were recruited by experienced research interviewers primarily by phone within one month of entering the SLHs. Baseline assessments were conducted on average 17 days (sd=9.0) after entering the house. Measures assessed a wide range of characteristics, including demographics, alcohol and drug use, social support, 12-step involvement, and psychiatric status. In a separate interview that took place approximately one month later, participants were asked about their perceptions of the social environment in the house. All study procedures were approved by the Public Health Institute IRB.

Measures

House measures included SES of the local neighborhood, number of beds, and gender of the house.

Individual measures:

1. Alcohol and drug use over the past six months was assessed using Time-Line-Follow-Back (TLFB) (Sobell et al., 1996). Because of the abnormal distribution, substance use over the past 6 months was dichotomized as 0 – 31 days of use versus 32 or more.
2. To assess psychiatric severity, we used the Psychiatric Diagnostic Screening Test (PDSQ (Zimmerman & Mattia, 1999). In addition to an overall score (115 items), the scale provides screening results for specific 13 clinical disorders, including depression.
3. Motivation was assessed as the benefits (14 items) and costs (15 items) of stopping/cutting down on substance use or maintaining abstinence. We used a modification of the Alcohol and Drug Consequences Questionnaire (ADCQ (Cunningham, et al., 1997), which assessed motivation to change substance use. We modified the scale so respondents could choose to indicate motivation to maintain sobriety or stop/cut down on use. Most residents had stopped using at the time of the interview. Responses are measured on a 6-point Likert scale ranging from zero to five assessing level of importance for each cost and benefit item. Two scales were created by summing scores and dividing by the number of items. Alphas for our modification of these scales (i.e., assessing motivation

to “keep my sobriety” as a response option) were 0.88 for costs and 0.84 for benefits (Polcin, Korcha, & Bond, 2015).

4. The 12-Step Affiliation Scale was a modification of the Alcoholics Anonymous Affiliation Scale (AAAS)(Humphreys, Kaskutas & Weisner, 1998). The measure is a nine-item scale that measures the strength of an individual’s affiliation with AA and other 12-step groups. An overall scale score ranging from 0 – 9 is generated by summing the items. Measures of internal consistency have been shown to be good across a variety of groups. We included involvement in other 12-step groups in addition to AA, such as Narcotics Anonymous (NA). We therefore refer to “12-step” affiliation throughout the paper rather than AA affiliation.

5. The Perceived Social Support Scale (PSS) (Rice & Longabaugh, 1996) was used to assess social support from friends and family. Seven items assess the degree of support residents feel they receive from family and seven additional items assess support from friends. Subscale scores range from 0 to 7.

6. Demographic items, including sex, age, race, and education.

7. Recovery capital was assessed using the recovery capital measure developed by White (2009). The scale consists of 35 items assessed on a 5-point Likert scale (a potential total score of 175) and takes a broad view of recovery capital, encompassing social support, access to healthcare and other services, living environment, psychological assets, health, work, and neighborhood characteristics. Cronbach’s alpha for our sample was 0.90, indicating a high level of internal consistency.

Resident Perceptions of The Social Environment:

1. The Community Oriented Program Evaluation Scale (COPES) (Moos, 1997) was used to assess resident perceptions of the social environment within the houses. The COPES was originally designed to assess social environments in residential treatment programs for persons with substance use and mental health disorders. Ten areas of the program’s social environment are assessed: Involvement, Support, Spontaneity, Autonomy, Practical Orientation, Personal Problem Orientation, Anger and Aggression, order and organization, program clarity, and staff control. Items reflecting each domain are scored true or false and subscale scores range from 0 −10. Standard scores were used for all analyses. Psychometrics of the COPES have varied depending on the population and service setting. For example, Moos (1997) reported generally acceptable levels of internal consistency in his work assessing community-based residential substance abuse and mental heal programs. However, in a study of Oxford Houses (Harvey & Jason, 2011), eight of the ten scales had unacceptable levels of internal consistency (Cronbach’s alpha <0.70). We used a standard cutoff level of 0.70 to four subscales with acceptable levels of internal consistency: Involvement (0.79), Support (0,76), Practical Orientation (0.78), and Order and Organization (0.77). We dropped the other scales, where alphas ranged from 0.41

to 0.66. We hypothesized that recovery capital would be associated with higher scores on Support and Involvement subscales, which are principles germane to social model recovery. Associations between the other COPES scales and recovery capital were considered exploratory.

2. The Recovery Home Environment Scale (RHES) (Polcin, Mahoney, & Mericle, under review) is a new measure designed to assess perceptions of the SLH social environment that contribute to social model recovery. Eight scale items assess resident interactions relevant to social model recovery, including social support for recovery, integration of 12-step work into daily house interactions, general and recovery oriented helping behaviors, perceptions of the effectiveness of house meetings, and empowerment of residents in decision making. Items are rated on a 5-point Likert scale ranging from “not at all” to “a lot.” A total mean score is calculated. A list of the 8 items can be found in the appendix.

The RHES has some similarities with the COPES, but two instruments were designed for different purposes and the 2 scales complements each other. Conceptually, the COPES takes a much broader view of the social environment than the RHES. The COPES is applicable to a range of environments, including mental health and formal treatment settings. Moreover, the COPES does not assess issues central to social model recovery in peer operated homes. Examples of factors assessed by the RHES but not the COPES include the extent to which residents attend 12-step meetings together, practice 12-step recovery principles during interactions in the home, are able to use house meetings to resolve issues and conflicts, and point out to other residents the potential consequences of not working a strong recovery program.

Psychometric properties of the RHES include principal components analysis, which showed the scale is largely unidimensional. The one factor for the total scale contained an Eigen value greater than 1, which comprised 61% of the variance among the eight RHES items. Internal consistency of eight items was strong (alpha=.90). Construct validity was supported by correlations between the RHES scale and subscales scores on the COPES. The RHES was positively associated with the positive social environment characteristics on the COPES, including Involvement ($r=0.66$, $p<0.001$) and Support ($r=0.63$, $p<0.001$), but negatively associated with detrimental characteristics, such as the Anger and Aggression scale ($r=-0.191$, $p<0.01$). Regression models to demonstrate predictive validity and showed the RHES was positively associated with subsequent length of stay (Coef=2.81, p=0.002) and negatively associated with subsequent number days of alcohol or drug use (Coef=−0.64, p=0.035) (Polcin, Mahoney & Mericle, under review).

Analysis

Analyses began with descriptive statistics depicting characteristics of houses, residents, social capital, and perceptions of the social environment. Analyses then examined how a variety of individual and social environment characteristics were associated with recovery capital. These analyses included correlations, t-tests for independent means, and chi square tests. Variables that had significant associations with recovery capital were then entered into linear regression models predicting recovery capital. The intent of these analyses was

to parse out the relative effects of different variables. All analyses were conducted on cross-sectional data showing how study variables were related within the first six weeks after entering the house.

Results

Demographics

Three hundred and sixty-three residents participated in the study, which represented 93% of those who met the eligibility criteria. Over a third of the sample (35.8%) were women. The mean age was 40.15 (sd=12.37) and the distribution by race was 52.3% white, 15.4% African American, 25.6% Hispanic/Latino and 6.6% other or mixed race. 47.9% had a high school diploma or less education, and 52.1% had some college.

Individual Measures

Table 1 shows baseline findings for individual measures. The mean score of 132.31 out of a possible score of 175 for the Recovery Capital Scale suggests that shortly after entering the houses residents possess considerable resources relevant to recovery. The average score for individual items was 3.68(sd=.48) on a 5-point scale. There were a mix of items that were rated high, including support from friends and family, a safe and secure neighborhood, reasonably good health, dealing with legal requirements, and intrapersonal assets, such as goals, high hopes for the future, and a clear sense of “who I am.” Means on these items were all ≥ 4.0. Items that were relatively lower included financial resources, a stable job, intimate partner, and medications for cravings. Means on these items were all < 3.00.

To a large extent, items on other individual measures showed similar findings. For example, Table 1 shows a moderate level of support from family and friends on the Perceived Social Support scales. Responses on the 12-Step Affiliation scale showed moderate involvement in 12-step groups. However, residents also evidenced some important internal resources, such as motivation. Consistent with other studies of SLHs (Polcin, Korcha & Bond, 2015) resident scores on the ADCQ showed high benefits associated with abstinence and limited costs (i.e., challenges associated with abstinence). The mean score of 30.19(sd=24.33) suggests that relative to persons receiving psychiatric services, psychiatric severity is modest. However, over half the sample (n=122) met the screening criteria for major depression.

Social Environment Measures

Table 2 shows scores for subscales measuring perceptions of the social environment. We dropped subscales on the COPES that did not have acceptable levels of internal consistency (<0.70). These included Spontaneity, Autonomy, Personal Problem Orientation, Anger and Aggression, Program Clarity, and Staff Control. As the table indicates, the remaining scales all had scaled scores in the moderate range, indicating residents perceived moderate amounts of resident involvement, social support from other residents, a practical orientation that helped them deal with challenges, and order and organization within the household. The mean score of 26.40 on the RHES suggests residents perceived moderate amounts of social model activity in their households.

Bivariate Analysis

Table 3 shows the measures assessing individual residents that had significant correlations with recovery capital. Significant correlations with recovery capital were found for measures of social support, 12-step involvement, and motivation. The magnitude of the associations was small to medium, ranging from −0.22 to 0.37. Although the total score on the PDSQ did not correlate with recovery capital, those who met the screening criteria for depression had lower levels of recovery capital, a mean score of 128.52(sd=16,68) versus 134.23(sd=16.68) for those who did not meet the screening criteria (t=2.97, p<.01).

Recovery capital among residents did not differ by economic status of the neighborhood where their houses were located or house characteristics such as size and gender. In addition, we did not find the dichotomous Time-Line-Follow-Back measure of days of substance use over the past 6 months (0 – 31 days of use versus 32 or more) to be associated with recovery capital (not shown in the table).

Table 4 shows that perceptions of the social environment were associated with recovery capital. Hypotheses that higher scores on the RHES, Involvement, and Support scales would be associated with higher recovery capital were confirmed. However, we also found other higher scores on other COPES scales corelated with recovery capital, including practical orientation, and order and organization. The strengths of the associations were small, ranging from 0.15 to 0.23, but nevertheless significant at p<.o1 or lower.

Multivariate Analysis

Results of regression analyses can be seen in Tales 5 and 6. Table 5 shows that a variety of individual characteristics revealed were associated with recovery capital, including support from friends (β=1.44; se=.42) and family (β=1.63; se=.32), 12-step affiliation (β=1.76; se=.37), and costs and benefits scales measuring motivation (β=−2.08; se=.85 and β=4.02; se=1.10 respectively). Although the total score on the PDSQ (a measure of psychiatric severity) did not predict recovery capital, the depression subscale showed a statistical trend as a predictor (β=−3.23; se=1.67; p=.055).

The purpose of the regression model reported in Table 6 was to assess whether perceptions of the social environment predicted recovery capital controlling for the individual predictors of recovery capital and demographics. The table shows that higher Practical Orientation was a significant predictor of higher recovery capital (β=.12, SE=.05, p<05). Three other scales approached significance, all with p values <.10. These included Involvement, Support, and the RHES. Betas reflected small associations, ranging from .12(SE=.66) on the Support scale to .19 (SE=.10) on the RHES. The one scale assessing the social environment that did not have higher scores associated with recovery capital was Order and Organization.

Discussion

The role of recovery capital continues to be increasingly emphasized in the addiction literature (Cano, Best, Edwards, & Lehman, 2017; Vilsaint et al., 2017), However, there is limited information about the characteristics of recovery environments that are associated with recovery capital. This study represents one of few investigations assessing social

environment characteristics associated with recovery capital and it is the first to study correlates of recovery capital in SLHs.

The study was based on the premise that some types of service settings are well suited to developing recovery capital and that SLHs are a good example. Our measure of recovery capital suggested residents in SLHs have substantial recovery capital assets 17 days after entering the houses. The types of capital they possess are diverse, encompassing social support, overall good health, access to healthcare and other services, a safe and stable living environment, confidence to deal with legal problems and psychological assets. It was interesting that residents reported significant recovery capital assets in a broad range of houses. Recovery capital did not show significant differences among houses that differed by the economic status of their neighborhoods or other houses characteristics, such as size and gender.

Individual Characteristics

One goal of the study was to assess how individual characteristics of residents entering SLHs were associated with recovery capital. A number of individual level variables had significant correlations with recovery capital. Higher levels of support from friends and family, involvement in 12-step groups, and motivation were associated with higher recovery capital. Participants who met screening criteria for depression reported lower recovery capital. When these variables were entered into regression models that controlled for demographic characteristic, they were found to be significant predictors of recovery capital.

Associations between individual characteristics assessed and recovery capital were not surprising. The finding that depression was associated with lower recovery capital is consistent with previous studies (Witbrodt et al., 2019). It is unclear why depression but not other psychiatric symptoms (e.g., anxiety) was associated with lower recovery capital. Polcin, Korcha and Bond (2015) suggested the impact of psychiatric symptoms on individual residents and the overall social environment is an area in need of further research.

To the extent that persons who entered SLHs reported more support from friends and family and were more actively engaged in 12-step meetings, they were more likely to score higher on recovery capital scale items that measure these issues. Examples of recovery capital items include, “I have family members who are supportive of my recovery process,” “I have friends who are supportive of my recovery process,” and “I have established close affiliation with a local recovery support group, such as AA or NA.” Similarly, it is understandable that persons who were motivated to maintain abstinence (experienced high benefits and low costs associated with abstinence) were more likely to report higher motivation on the recovery capital scale (e.g., “I now have goals and great hopes for my future”). However, it is important to emphasize that the recovery capital scale measures a wide variety of recovery assets, many of which are not conceptually related to our individual measures. These include healthcare, transportation, employment, resolution of legal problems, personal values, a sense of “who I am,” and a sense of purpose in life. It was interesting that responses to these items on the recovery capital scale were similar to items related to our individual measures (e.g., perceived social support). It could be the case that individual characteristics,

such as social support, motivation, and 12-step involvement, facilitate acquisition of a range of recovery capital assets, not just those that are conceptually related.

Social Environment Characteristics

Although individual measures showed the strongest associations with recovery capital, variables measuring perceptions of the social environment were also shown to be important.

Higher scores on most social environment variables showed modest associations with higher recovery capital. However, it is important to note that the regression model used to test their influences controlled for individual measures as well as for demographic characteristics. Because all of the social environment variables were entered together into one model, we were able to parse out individual effects of different aspects of the social environment (Table 6).

The Practical Orientation scale was the strongest predictor of recovery capital. This scale focuses on the development of practical skills, goals, and specific plans that will help persons successfully transition out of the residence. These assets are clearly part of recovery capital, so it is understandable that persons who perceive them to be common in the SLH environment would report having more overall recovery capital. However, it is important to recognize that as residents develop and implement practical skills, goals, and specific plans, they might be acquiring other types of recovery capital, such as job training, medical care, mental health services, and improved self-esteem. In this way, acquisition of specific types of recovery capital assets can have a synergistic effect that fuels acquisition of other types of recovery capital.

We did not conceptualize the Practical Orientation scale in terms of social model characteristics or hypothesize that it would predict recovery capital. However, items on the scale do emphasize strengths that might result from the implementation of social model recovery principles. Rather than being developed as a result of professional therapy or psychoeducational groups, recovery capital assets such as practical skills, goals, and plans might be developed as a result of shared experiences among residents. In addition, it may be the case that practical skills are developed as a result of practicing social model recovery principles, such as using 12-step strategies to manage stress and interpersonal issues. Higher scores on the RHES, which assessed these and other social model characteristic, correlated with higher levels of social capital and showed a statistical trend in the regression model.

Although the COPES was not designed specifically to assess social model characteristics, some of the subscales that are relevant to social model recovery (i.e., Support and Involvement) correlated with recovery capital. In fact, peer support and peer involvement in household activities are central to the social model approach in SLH settings (Wittman & Polcin, 2014). The one scale that did not show a trend toward predicting higher recovery capital was Order and Organization, although this scale did show evidence of a bivariate correlation with higher recovery capital.

Although our study was not designed to imply causality, the significant associations found between recovery capital and social environment characteristics in SLHs have implications

for recovery home providers. Our results suggest it is incumbent on service providers to focus on developing social environment characteristics that are associated with higher levels of recovery capital. These include a practical orientation, support, involvement, and behaviors consistent with social model recovery. Strategies for enhancing these and other characteristics within the household environment have been described in detail in several papers (Douglas L. Polcin et al., 2014; Wittman et al., 2014). In addition to enhancing recovery capital within the household, Polcin and colleagues (Polcin & Korcha, 2017; Polcin, Korcha & Bond, 2015) described how experiential learning can be used to facilitate residents' knowledge of and access to community resources. Essentially, persons who have used community services share their experiences and suggestions with other residents who need the same services. Residents are therefore better prepared and more likely to benefit. In addition to providing information, residents sometimes provide practical help, such as attending services with the individual or providing directions. In this way, social support capital in the SLH is used to facilitate other types of recovery capital, including professional services in the community.

Limitations

There are a number of limitations to this study.

1. First, the houses studied are located in one geographic area of the country (Los Angeles). Houses in other locations might differ in terms of their access to recovery capital and the factors that correlate with it.
2. We assessed recovery capital after individuals had been in the homes for a short period of time, on average 17 days. This means the effect of the social environment within the house on recovery capital was only operative for this brief period of time. We suspect social environment and neighborhood influences on recovery capital would be far stronger over a period of months. Still, it was notable that we found associations between measures of the social environment and recovery capital during this relatively brief period.
3. Although it is likely that some of the associations that we found between recovery capital and social environments in SLHs also exist in other types of recovery homes and treatment programs (e.g., Oxford Houses and residential treatment), research needs to investigate recovery capital in these other contexts.
4. The factors we found to be associated with recovery capital do not imply causality. While the social environment could be affecting the acquisition of recovery capital, causality could be operating the other direction. In that case, recovery capital already existing among residents could be affecting characteristics of the social environment in the households. In addition, there could be a mutual influence, where improvements in social environments and acquisition of recovery capital enhance each other. The question about interaction of these factors requires additional research.

5. Finally, there are a host of individual, house, and neighborhood factors not assessed in this study that could have important associations with recovery capital.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgement:

Supported by the National Institute on Drug Abuse, grant number DA042938. The funding organization had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

References

Borkman T, Kaskutas LA, & Barrows D (1999). The social model: a literature review and history. Part One, Tab I Accessed: [2013-11-19. Archived by WebCite® at http://www.webcitation.org/6LFnhLUT4]. In Kaskutas LA (Ed.), The Social Model Approach to Substance Abuse Recovery: A program of research and evaluation (pp. 1–84). Rockville, MD: Center for Substance Abuse Treatment.

Cano I, Best D, Edwards M, & Lehman J (2017). Recovery capital pathways: Modelling the components of recovery wellbeing. Drug and Alcohol Dependence, 181, 11–19. [PubMed: 29028554]

Cloud W, & Granfield R (2008). Conceptualizing recovery capital: expansion of a theoretical construct. Substance Use and Misuse, 43(12–13), 1971–1986. doi:10.1080/10826080802289762 [PubMed: 19016174]

Harvey R, & Jason LA (2011). Contrasting social climates of small peer-run versus a larger staff-run substance abuse recovery setting. American journal of community psychology, 48(3–4), 365–372. [PubMed: 21400123]

Hennessy EA (2017). Recovery capital: a systematic review of the literature. Addiction Research and Theory, 25(5), 349–360. doi:10.1080/16066359.2017.1297990

Kaskutas LA, Greenfield TK, Borkman TJ, & Room JA (1998). Measuring treatment philosophy: a scale for substance abuse recovery programs. Journal of substance abuse treatment, 15(1), 27–36. doi:10.1016/S0740-5472(97)00246-8 [PubMed: 9534124]

McKay JR, Carise D, Dennis ML, Dupont R, Humphreys K, Kemp J, … Schwartzlose J (2009). Extending the benefits of addiction treatment: practical strategies for continuing care and recovery. Journal of substance abuse treatment, 36(2), 127–130. doi:10.1016/j.jsat.2008.10.005 [PubMed: 19161893]

Mericle AA, Miles J, Cacciola J, & Howell J (2014). Adherence to the social model approach in Philadelphia recovery homes. International Journal of Self Help and Self Care, 8(2), 259–275.

Moos RH (1997). Evaluating Treatment Environments: The quality of psychiatric and substance abuse programs (2nd ed.). New Brunswick, NJ: Transaction Publishers.

National Association of Recovery Residences. (2012). A primer on recovery residences: FAQ [Accessed: 2012-10-02. Archived by WebCite® at http://www.webcitation.org/6B7e01VSk]. Retrieved from Atlanta, GA: file://G:%5CPUBLIC%5CCopy%20Of%20B-pdfs%5CB1377.pdf

O'Neill JV (1990). History of Oxford House, Inc. In Shaw S & Borkman T (Eds.), Social Model Alcohol Recovery: An environmental approach (pp. 103–117). Burbank, CA: Bridge-Focus, Inc.

Polcin, Mahoney, & Mericle. (under review). Psychometric Properties of the Recovery Home Environment Scale. Substance Use and Misuse.

Polcin DL (2018). Role of recovery residences in criminal justice reform. The International Journal of Drug Policy, 53, 32–36. doi:10.1016/j.drugpo.2017.10.009 [PubMed: 29278830]

Polcin DL, & Henderson DM (2008). A clean and sober place to live: philosophy, structure, and purported therapeutic factors in sober living houses. Journal of psychoactive drugs, 40(2), 153–159. doi:10.1080/02791072.2008.10400625 [PubMed: 18720664]

Polcin DL, & Korcha R (2017). Housing status, psychiatric symptoms, and substance abuse outcomes among sober living house residents over 18 months. Addictive Disorders and Their Treatment, 16(3), 138–150. doi:10.1097/ADT.0000000000000105 [PubMed: 29056875]

Polcin DL, Korcha R, Bond J, & Galloway G (2010). Eighteen-month outcomes for clients receiving combined outpatient treatment and sober living houses. Journal of Substance Use, 15(5), 352–366. doi:10.3109/14659890903531279 [PubMed: 21197122]

Polcin DL, Korcha R, Witbrodt J, Mericle AA, & Mahoney E (2018). Motivational Interviewing Case Management (MICM) for persons on probation or parole entering sober living houses. Criminal Justice and Behavior, 45(11), 1634–1659. doi:10.1177/0093854818784099 [PubMed: 30559549]

Polcin DL, Korcha RA, Bond J, & Galloway G (2010). Sober living houses for alcohol and drug dependence: 18-month outcomes. Journal of substance abuse treatment, 38(4), 356–365. doi:10.1016/j.jsat.2010.02.003 [PubMed: 20299175]

Polcin DL, Korcha RA, & Bond JC (2015). Interaction of motivation and psychiatric symptoms on substance abuse outcomes in sober living houses Substance Use and Misuse, 50(2), 195–204. doi:10.3109/10826084.2014.962055 [PubMed: 25290664]

Polcin DL, Mahoney E, & Mericle AA (2020). House manager roles in sober living houses. Journal of Substance Use, 1–5.

Polcin DL, Mericle A, Howell J, Sheridan D, & Christensen J (2014). Maximizing social model principles in residential recovery settings. Journal of psychoactive drugs, 46(5), 436–443. doi:10.1080/02791072.2014.960112 [PubMed: 25364996]

Sobell LC, Sobell MB, Buchan G, Cleland PA, Fedoroff IC, & Leo GI (1996). The reliability of the Timeline Followback method applied to drug, cigarette, and cannabis use. In Association for the Advancement of Behavior Therapy. New York, NY: 11 21–24.

Vilsaint CL, Kelly JF, Bergman BG, Groshkova T, Best D, & White W (2017). Development and validation of a Brief Assessment of Recovery Capital (BARC-10) for alcohol and drug use disorder. Drug and Alcohol Dependence, 177, 71–76. doi:10.1016/j.drugalcdep.2017.03.022 [PubMed: 28578224]

White W (2009). Recovery Capital Scale. www.williamwhitepapers.com.

Witbrodt J, Polcin D, Korcha R, & Li L (2019). Beneficial effects of motivational interviewing case management: a latent class analysis of recovery capital among sober living residents with criminal justice involvement. Drug and Alcohol Dependence, 200, 124–132. doi:10.1016/j.drugalcdep.2019.03.017 [PubMed: 31128464]

Wittman FD, Jee B, Polcin DL, & Henderson D (2014). The setting is the service: how the architecture of the sober living residence supports community based recovery. International Journal of Self Help and Self Care, 8(2), 189–225. doi:10.2190/SH.8.2.d [PubMed: 25328377]

Wittman FD, & Polcin DL (2014). The evolution of peer run sober housing as a recovery resource for California communities. International Journal of Self Help and Self Care, 8(2), 157–187. doi:10.2190/SH.8.2.c [PubMed: 25477748]

Wright A (1990). What is a social model? In Shaw S & Borkman T (Eds.), Social Model Alcohol Recovery: An environmental approach (pp. 7–10). Burbank, CA: Bridge-Focus, Inc.

Table 1

Individual Characteristics at Baseline

Measure	(N=363)	
	M	***SD***
Recovery Capital Scale	132.31	17.49
Perceived Social Support: Family	4.35	2.36
Perceived Social Support: Friends	5.02	2.03
12-Step Affiliation	5.41	2.33
Alcohol & Drug Consequences Costs	.87	.95
Alcohol & Drug Consequences Benefits	4.37	.85
PDSQ Total	30.19	24.33

Note: PDSQ = Psychiatric Diagnostic Screening Questionnaire.

Table 2

Perceptions of the SLH Social Environment

	(N=363)	
Measure	**Mean**	**SD**
COPES Involvement	50.68	11.58
COPES Support	49.66	11.58
COPES Practical Orientation	46.84	13.76
COPES Order and Organization	51.99	12.43
RHES	26.40	8.10

Note. COPES = Community Oriented Program Evaluation Scale,

RHES = Recovery Home Environment Scale

Table 3

Correlations between Recovery Capital and Individual Characteristics

	1	2	3	4	5	6
Recovery Capital Scale	-					
Perceived Social Support: Family	0.32***					
Perceived Social Support: Friends	0.33***	0.17**				
12-Step Affiliation	0.35***	0.03	0.23***			
Alcohol & Drug Consequences Questionnaire Costs	−0.22***	−0.10+	−0.24***	−0.05		
Alcohol & Drug Consequences Questionnaire Benefits	0.37***	0.18***	0.21***	0.39***	−0.07	-

Note.

*** p <.001,

** p <.01,

* p < .05,

+ p <.10)

Table only shows scales with significant correlations with Recovery Capital Scale

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Table 4

Correlations between Recovery Capital and Perceptions of the Social Environment

	1	2	3	4	5	6
Recovery Capital Scale	-					
COPES Involvement	0.19***					
COPES Support	0.19***	0.73***				
COPES Practical Orientation	0.18***	0.70***	0.66***			
COPES Order and Organization	0.15**	0.69***	0.63***	0.63***		
RHES	0.23***	0.65***	0.64***	0.63***	0.56***	-

Note: RHES = Recovery Home Environment Scale

COPES = Community Oriented Program Evaluation Scale

*** p <.001,

** p <.01

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Table 5

Individual Measures Predicting Recovery Capital

Measure	B	SE	P
Depression	−3.225	1.673	.055
PSS family	1.628	.324	<.001
PSS friends	1.441	.417	.001
12-Step Affiliation	1.758	.373	<.001
ADCQ costs	−2.080	.850	.015
ADCQ benefits	4.015	1.102	<.001

Note: Analyses controlled for age, gender, and race.

Depression is taken from the PDSQ depression subscale score.

Model shows cross-sectional relationships with first 6 weeks.

Table 6

Perceptions of Social Environment Predicting Recovery Capital

Measure	B	SE	P
Involvement	.125	.069	.070
Support	.122	.667	.069
Practical Orientation	.122	.059	.038
Order and organization	.084	.064	.189
RHES	.187	.103	.069

Note: Analysis controlled for age, gender, race, and individual measures: Perceived Social Support Family and Friend Scales, Depression, 12-step Involvement, and ADCQ Costs and Benefits scales.

RHES=Recovery Home Environment Scale.

Model shows cross-sectional relationships with first 6 weeks.