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# Subjective and objective indicators of recovery in severe mental illness: a cross-sectional study

Chris Lloyd, Robert King & Liz Moore

## ABSTRACT

**Background:** This study aimed to determine whether subjective dimensions of recovery such as empowerment are associated with self-report of more objective indicators such as level of participation in the community and income from employment. A secondary aim was to investigate the extent to which diagnosis or other consumer characteristics mediated any relationship between these variables.

**Methods:** The Community Integration Measure, the Empowerment Scale, the Recovery Assessment Scale, and the Camberwell Assessment of Needs Short Appraisal Schedule were administered to a convenience sample of 161 consumers with severe mental illness.

**Results:** The majority of participants had a primary diagnosis of schizophreniform, anxiety/depression or bipolar affective disorder. The Empowerment Scale was quite strongly correlated with the Recovery Assessment Scale and the Community Integration Measure. Participants with a diagnosis of bipolar affective disorder had significantly higher recovery and empowerment scores than participants with schizophrenia or depression. Both empowerment and recovery scores were significantly higher for people engaged in paid employment than for those receiving social security benefits.

**Conclusions:** The measurement of subjective dimensions of recovery such as empowerment has validity in evaluation of global recovery for people with severe mental illness. A diagnosis of bipolar disorder is associated with higher scores on subjective and objective indicators of recovery.

**Key words:** mental health, recovery

## INTRODUCTION

Recovery is a concept that has gained increasing attention in the last few years (Shepherd *et al.*, 2008). Recovery has been described as a process of managing one's mental illness, moving on beyond its devastating effects, and pursuing a meaningful life in the community (Anthony, 1993; Meddings & Perkins, 2002; Young & Ensing, 1999). A number of authors have looked at the dimensions of and stages in recovery (e.g. Andresen *et al.*, 2003; Tooth *et al.*, 2003). Andresen *et al.* (2003) thematically analyzed a large number of personal accounts of recovery and identified four key component processes of recovery. These being: finding and maintaining hope, the

reestablishment of a positive identity, finding meaning in life, and taking responsibility for one's life. Rogers *et al.* (1997) identified through a Making Decisions Empowerment Scale the relevance of self-efficacy/self-esteem, power/powerlessness, community activism, righteous anger and optimism/control over the future as the key components of recovery. Empowerment occurs as a result of the process of change, through participation in, or control over decision-making, in addition to the actual change that is brought about (Salzer, 1997). Internal strength is combined with interconnectedness to yield self-help, advocacy, and caring about what happens to themselves and to others (Corrigan *et al.*, 2004). Empowerment has been found to be associated with quality of life, social support and self-esteem (Corrigan *et al.*, 1999).

While the concept of recovery is well established in contemporary mental health practice, questions have been raised about its relationship with more traditional concepts of functional improvement and participation in the community (Meehan *et al.*, 2008). Even today, people with psychiatric disability are often prevented from or are unable to join fully in community life (Office of the Deputy Prime Minister, 2004). Although the majority of care is now delivered in the community, the personal, clinical, and social outcomes have not always been successful (Office of the Deputy Prime Minister, 2004). People with psychiatric disability are often still marginalized and stigmatized and experience impoverished quality of life and living conditions (Hansson & Bjorkman, 2005).

Mental health services, in particular rehabilitation, are meant to assist people with psychiatric disability join again the complex array of activities and relationships that comprise ordinary daily life. It could be said that these services are effective or successful to the extent that they help people participate in daily life and be integrated within their communities (Minnes *et al.*, 2003). McColl *et al.* (2001) found four factors contributing to community integration. These included assimilation, occupation, relationships, and living situation. Need has often included both general human needs and special needs caused by the psychiatric disability (Foldemo *et al.*, 2004). People with psychiatric disability often experience a wide range of needs in the social and personal domains (Korkeila *et al.*, 2005). Mental health care should be provided on the basis of the needs of individual service users. Individuals accounts of their own needs are likely to ensure up to date information and allow correct definition of personal needs (Macpherson *et al.*, 2003).

## Service context

This research project was conducted in the Gold Coast Health District, a major regional centre in south-east Queensland, Australia. The local mental health services consist of a public mental health service which provides inpatient care, case management, assertive outreach, rehabilitation, mobile intensive treatment, and specialist teams, for example, the homeless health outreach team. The district also has a comprehensive range of non-government service providers who focus on aspects such as employment support, social and support groups, skills training, and assistance with daily living needs.

## Aims

The broad aim of this study was to better understand the relation between different dimensions of recovery as measured in a single cross-sectional survey of people using services designed to assist in recovery from severe mental illness. More specifically, the study aimed to discover:

1. Whether subjective dimensions of recovery such as empowerment, hope and goal orientation are associated with self-report of more objective indicators such as level of participation

in the community, employment and the extent to which needs relevant to mental health are met.

2. Whether personal characteristics such as gender, age and diagnosis, mediate any relationships between subjective dimensions of recovery and objective indicators of recovery.

It was hypothesized:

1. That higher scores on measures of subjective recovery (Empowerment Scale and the Recovery Assessment Scale) would be associated with higher levels of self-reported participation in the local community (Community Integration Measure), higher rates of self-reported employment and higher levels of self-reports of needs being fully met (Camberwell Assessment of Need Short Appraisal Schedule).
2. That scores on subjective measures of recovery will not be associated with personal characteristics (age, gender, diagnosis). In other words the relationship between subjective recovery and objective indicators of recovery will not be mediated by gender, age or diagnosis.

## METHOD

### Participants

The participants consisted of 161 people in receipt of clinical services, psychosocial rehabilitation services or specialist non-government support services or some combination thereof. They were recruited from the Gold Coast Health District. The majority had diagnosis of either schizophrenia or bipolar disorder, and were dependent on social security, suggesting significant impairment. A detailed description of the sample is set out at the beginning of the results section.

### Measures

For each participant a baseline demographic information sheet was completed. This included items pertaining to the person's age, gender, diagnosis, marital status, and income support. The instruments used in this study included, the Community Integration Measure (CIM), the Empowerment Scale (ES), the Recovery Assessment Scale (RAS), and the Camberwell Assessment of Need Short Appraisal Schedule (CANSAS).

### The Community Integration Measure (CIM)

The Community Integration Measure was developed by McColl *et al.* (2001) to measure the community integration of people with acquired brain injury. The measure is based on an explicit theoretical model, it is client-centred, and it was constructed by using language derived from participant interviews. It is brief, easy to administer, and easy to score. The CIM is a 10-item scale, which asks participants such questions as 'I feel like part of this community, like I belong', 'I know a number of people in this community well enough to say hello and have them say hello back'. The participants are instructed to state whether they always agree, sometimes agree, they are neutral, sometimes disagree or always disagree. Internal consistency using Cronbach's alpha was 0.87, and criterion validity was established through its correlation with the Community Integration Questionnaire (Sander *et al.*, 1999). The CIM has also been successfully used with people who have severe mental illness (Lloyd *et al.*, 2008).

### The Empowerment Scale

The Empowerment Scale (Making Decisions) was developed by Rogers et al. (1997). This scale was developed to measure the personal construct of empowerment as defined by consumers of mental health services. The scale has five factors/subscales and consists of 28 statements. These include self-esteem and self-efficacy with questions such as 'I generally accomplish what I set out to do', power–powerlessness with questions such as 'I feel powerless most of the time', community activism and autonomy with questions such as 'People have a right to make their own decisions, even if they are bad ones', optimism and control over the future with questions such as 'People are limited only by what they think is possible', and righteous anger which asks questions such as 'Getting angry about something is often the first step towards changing it'. The participants are asked to respond to the number that best describes how they feel: strongly agree, agree, disagree, or strongly disagree. Cronbach's alpha suggested that it has a high degree of internal consistency, 0.86, and a stable factor structure (Wowra & McCarter, 1999).

### The Recovery Assessment Scale

The Recovery Assessment Scale was originally developed by Gifford et al. (1995) to provide a scale to measure the concept of recovery for mental health consumers. The scale has 24 items under five sub-scales: personal confidence and hope, willingness to ask for help, goal and success orientation, reliance on others, and no domination by symptoms. Sample statements include: 'fear doesn't stop me from living the way I want to be', 'I know when to ask for help', 'I have a desire to succeed, even when I don't care about myself, other people do', and 'coping with mental illness is no longer main focus of my life'. Participants respond to each item using a 5-point Likert scale (1= strongly disagree; 5 = strongly agree). Previous studies have found the RAS to have good internal consistency ( $\alpha = 0.93$ ) and validity (Corrigan et al., 2004).

### The Camberwell Assessment of Need Short Appraisal Schedule

The Camberwell Assessment of Need Short Appraisal Schedule is a short version of the Camberwell Assessment of Need, which was developed originally by Phelan et al. (1995) to assess the needs of people with severe mental illness. It was thought to be useful in assisting the routine care and treatment of people with severe mental illness by encouraging systematic and regular needs assessments to shape care plans. The CANSAS consists of 22 items covering such areas as accommodation, occupation, company of others, transport and welfare benefits. It can be rated by staff, the participants or carers. The CANSAS has four sections for each item. It is scored by rating 0 (no need), 1 (met need due to help given), 2 (unmet need) and 9 (not known). Total met and unmet needs are summed from the ratings. The CANSAS has been quite widely used to investigate perceptions of need (Andresen et al., 2000; Macpherson et al., 2003; Slade et al., 2005).

### Procedure

To enable recruitment, posters outlining the project were displayed in the waiting room of the community clinics and the third author (LM) gave talks about the proposed research project to the various clinical teams and to key people in the non-government sector. Prospective participants were informed about the objectives and methodology of the study and provided written informed consent prior to participation.

Data collection was done by means of an interview by telephone (60%) or in person (40%). Interview duration was not formally recorded but an hour was allocated for each interview.

All interviews were conducted by LM, a psychologist with substantial experience working with people with severe mental illness in both clinical and research contexts.

### Ethical approval

This study received ethical approval from the Gold Coast Health Service District Human Research Ethics Committee and the Ethics Committee at the University of Queensland.

### Data analysis

Data analysis used the general linear model to compare mean scores on recovery measures for subgroups within the sample. Bonferroni corrections were used in pair-wise comparisons. Regression models were used to examine the relationship between scores on different measures. All data analysis was conducted using SPSS version 14.0.

## RESULTS

### Sample description

The sample comprised 161 people receiving public mental health services. There were approximately equal numbers of male ( $n = 82$ ) and female ( $n = 79$ ) participants. Mean age of participants was 41 ( $SD = 12.8$ ). Diagnosis was based on self-report and diagnostic information was available for 159 of the participants. The most common primary diagnosis was schizophrenia ( $n = 55$ ) and there were substantial groups with a diagnosis of depression ( $n = 48$ ) and bipolar disorder ( $n = 38$ ). Smaller numbers had a primary diagnosis of an anxiety disorder ( $n = 13$ ), schizoaffective disorder ( $n = 4$ ) or a personality disorder ( $n = 1$ ). For purposes of subsequent analysis all participants were assigned to one primary diagnostic group: schizophreniform, anxiety/depression or bipolar. The greater proportion of participants were single ( $n = 90$ ) but a substantial minority were married or in a *de facto* relationship ( $n = 68$ ). Most participants relied on social security payments for income, with the largest group ( $n = 70$ ) being in receipt of disability support pension. A smaller group ( $n = 34$ ) either supported themselves entirely through paid employment or supplemented social security payments through part-time employment.

A breakdown of descriptive characteristics by diagnostic group is presented in Table 1. Table 1 shows that those within the schizophrenia group were more likely to be male (chi-square = 6.3,  $df = 2$ ,  $p < 0.05$ ), more likely to be in receipt of a disability support pension (chi-square = 30.1,  $df = 4$ ,  $p < 0.01$ ) and more likely to be recruited from a public mental health service (chi-square = 28.9,  $df = 4$ ,  $p < 0.01$ ). Those within the bipolar group were less likely to be in receipt of disability support pension (chi-square = 30.1,  $df = 4$ ,  $p < 0.01$ ) had higher RAS scores ( $F = 18.0$ ,  $df = 2$ ,  $p < 0.01$ ) and fewer unmet needs ( $F = 10.4$ ,  $df = 2$ ,  $p < 0.01$ ). Those within the anxiety/depression group were older ( $F = 4.0$ ,  $df = 2$ ,  $p < 0.05$ ) and less likely to be recruited from a public mental health service (chi-square = 28.9,  $df = 4$ ,  $p < 0.01$ ).

### Relationships among recovery variables

In this analysis we included the subscales of the Recovery Assessment Scales but not the subscales of the Empowerment Scale. The reason for this is that whereas Corrigan et al. (2004) reported good model fit in a confirmatory factor analysis with five factors from the Recovery Assessment

Scale, Rogers et al. (1997) found only ‘a somewhat satisfactory factor solution’ with exploratory factor analysis of the Empowerment Scale. The relationships among the three measures of recovery including the subscales of the Recovery Assessment Scale (RAS) are set out in Table 2.

Table 2 shows that the Empowerment Scale was quite strongly correlated with the RAS and with several RAS subscales, suggesting that the construct it measures is related both to the general construct measured by the RAS and specifically to the personal confidence, goal and success orientation and non-domination by symptoms components of the RAS. CANSAS scores were consistently negatively correlated with recovery scores, including community integration.

### Relationship between diagnosis and recovery scores

Scores from the CIM were quite strongly correlated with scores from the Empowerment Scale but had only moderate correlations with scores from the RAS or its subscales. This suggests that the construct of empowerment has a unique association with community integration that cannot be explained by the common ground it shares with the constructs measured by the RAS. This was confirmed by further analysis that showed partial correlation between CIM and Empowerment,

Table 1  
Descriptive characteristics by diagnostic group

|                                       | Schizophrenia<br>(n = 59) | Bipolar<br>(n = 38) | Anxiety/<br>Depression<br>(n = 62) | Total<br>(n = 159) |
|---------------------------------------|---------------------------|---------------------|------------------------------------|--------------------|
| % Female                              | 36%                       | 58%                 | 55%                                | 48%                |
| Mean age (SD)                         | 38.6 (11.6)               | 39.0 (11.7)         | 44.6 (13.8)                        | 41.1 (12.1)        |
| % single                              | 62%                       | 58%                 | 52%                                | 57%                |
| % disability support pension          | 84%                       | 41%                 | 63%                                | 66%                |
| % recruited through public MH service | 88%                       | 45%                 | 47%                                | 62%                |
| Mean Empowerment (SD)                 | 2.66 (0.36)               | 2.80 (0.43)         | 2.65 (0.360)                       | 2.69 (0.38)        |
| Mean RAS (SD)                         | 61.2 (14.7)               | 73.4 (12.7)         | 55.0 (15.7)                        | 61.6 (15.2)        |
| Mean CIM (SD)                         | 37.0 (8.6)                | 40.0 (9.3)          | 38.9 (7.6)                         | 38.4 (8.4)         |
| Mean CANSAS (SD)                      | 8.0 (5.1)                 | 3.7 (3.3)           | 7.9 (5.9)                          | 6.9 (5.4)          |

Table 2  
Relationships among measures of recovery (including the subscales of the Recovery Assessment Scale)

|          | CIM    | RAS    | RAS Conf | RAS Ask | RAS Goal | RAS Rely | RAS Symp | CANSAS  |
|----------|--------|--------|----------|---------|----------|----------|----------|---------|
| Emp      | 0.57** | 0.58** | 0.59**   | 0.24**  | 0.55**   | 0.28**   | 0.52**   | -0.48** |
| CIM      |        | 0.38** | 0.35**   | 0.13    | 0.33**   | 0.35**   | 0.35**   | -0.43** |
| RAS      |        |        | 0.94**   | 0.63**  | 0.89**   | 0.64**   | 0.81**   | -0.51** |
| RAS Conf |        |        |          | 0.55**  | 0.81**   | 0.56**   | 0.73     | -0.47** |
| RAS Ask  |        |        |          |         | 0.51**   | 0.26**   | 0.39**   | -0.25** |
| RAS Goal |        |        |          |         |          | 0.49**   | 0.65**   | -0.43** |
| RAS Rely |        |        |          |         |          |          | 0.46**   | -0.40** |
| RAS Symp |        |        |          |         |          |          |          | -0.44** |

\*\* p < 0.01.

controlling for RAS and all the RAS subscales, remained quite strong at 0.47 ( $p < 0.001$ ). By contrast, the partial correlation between CIM and RAS was weak at 0.09 ( $p = 0.27$ ) when the control variable was Empowerment.

### Relationship between employment status and recovery scores

There were significant differences between subgroups according to employment status for Empowerment ( $F = 6.30$ ,  $df = 2$ ,  $p < 0.01$ ), RAS ( $F = 7.38$ ,  $df = 2$ ,  $p < 0.01$ ) and CANSAS ( $F = 13.7$ ,  $df = 2$ ,  $p < 0.01$ ). Pairwise comparisons (Bonferroni corrections) showed that Empowerment and RAS scores were significantly higher and CANSAS scores significantly lower for people engaged in some form of paid employment than for people in receipt of social security benefits.

It should be noted that the proportion of people with bipolar disorder who reported some paid employment (53%) was much higher than the proportion of people with other disorders who reported some paid employment (14%). This means that the effect of diagnosis and employment on Empowerment scores is necessarily confounded. The sample size was not sufficient to determine whether diagnosis and/or employment status continued to have a significant effect on Empowerment and/or RAS when one or other was held constant.

### Relationship between age and recovery scores

To determine whether age should be used as a covariate in investigation of the relationship between key variables and recovery scores, age was entered into the correlation matrix with recovery scores. Age was not significantly correlated with any of the recovery measures or with CANSAS. As a result, age was not used further in analysis.

### Relationship between diagnosis and recovery scores

To investigate the effect of diagnosis on recovery scores, a multivariate analysis of variance was conducted with CANSAS, CIM, Empowerment and RAS as dependent variables, diagnosis, gender and relationship status as independent variables and age as covariate. This model yielded significant main effects for diagnosis on RAS ( $F = 16.5$ ,  $df = 2$ ,  $p < 0.01$ ), CANSAS ( $F = 8.6$ ,  $df = 2$ ,  $p < 0.01$ ) and Empowerment ( $F = 4.9$ ,  $df = 2$ ,  $p < 0.01$ ). The effect of diagnosis also approached significance in relation to CIM ( $F = 2.6$ ,  $df = 2$ ,  $p = 0.08$ ). Pairwise comparisons (Bonferroni correction) showed that participants with diagnosis of bipolar disorder had significantly higher RAS ( $p < 0.01$ ) and Empowerment scores ( $p < 0.05$ ) and significantly lower CANSAS scores ( $p < 0.01$ ) than participants in the anxiety/depression and schizophrenia diagnostic groups who did not significantly differ on any of the variables in the multivariate analysis.

Given that diagnosis was a potential confound and that there was evidence that participants with a diagnosis of bipolar disorder differed with respect to both subjective and objective indicators of recovery, we conducted further analysis of the relationships reported above, excluding those with primary diagnosis of bipolar disorder. We found that a very similar pattern of relationship between subjective indicators of recovery (RAS and ES) and more objective indicators (CANSAS and CIM) for this subsample as we found for the sample as a whole, suggesting diagnosis did not mediate the relationship. We also looked at the relationship between employment and both RAS and ES, excluding those with a diagnosis of bipolar disorder. One-way analysis of variance (post hoc paired comparisons using Bonferroni corrections) indicated that participants with at least some employment ( $n = 16$ ) had higher RAS scores than those in receipt of disability support or related



pensions ( $n = 74$ ) (mean difference = 10.5,  $p < 0.05$ ). A similar pattern was evident for empowerment scores, with those participating in employment having higher scores. However the difference was not significant. Again, diagnosis did not appear to be a major mediating factor.

## DISCUSSION

Empowerment scores for this sample were broadly comparable to those reported in a scale validation study by Wowra and McCarter (1999) for a sample of US outpatients with mental illness. Overall mean for this sample was 2.69 ( $n = 161$ ) compared with the overall mean in the validation study of 2.74 ( $n = 283$ ). RAS subscale mean scores were also broadly comparable with those reported by Corrigan and Phelan (2004) for a sample of 176 people with severe mental illness. This indicates that our study sample was similar to samples previously investigated using these measures.

As hypothesized, higher scores on both the Empowerment Scale and the Recovery Assessment Scale were associated with higher levels of participation in the local community and greater likelihood of reporting needs as being fully met. Furthermore, people who reported participation in at least some paid employment had significantly higher ES and RAS scores than people in receipt of social security benefits. This means that the hypothesis predicting an association between subjective dimension of recovery and more objective indicators was supported. While the associations were clearly greater than might be expected by chance, they were variable with respect to strength.

As hypothesized, neither age nor gender were associated with ES or RAS and are therefore unlikely to mediate the relationship between subjective and objective components of recovery. Similarly, Hansson and Bjorkman (2005) and Wowra and McCarter (1999) found that age did not predict empowerment scores. However, contrary to our expectations, diagnosis was quite strongly associated with scores on RAS and approached significance in relation to ES. People with a primary diagnosis of bipolar disorder had significantly higher scores on RAS than did people with a primary diagnosis of depression or people with a primary diagnosis of schizophrenia. People with a diagnosis of bipolar disorder also had higher scores on ES than did people with depression and, although this did not quite reach the 0.05 level of significance, it was sufficiently strongly associated to suggest that diagnosis could be a mediating factor in the relationship between ES and recovery indicators. However, when we excluded participants with bipolar disorder, the pattern of relationships found for the full sample was only marginally different, suggesting diagnosis is relevant to scores on both subjective and objective indicators of recovery but does not mediate the relationship between the two.

What this means is that scores on measures of subjective recovery such as RAS and ES are associated with scores on measures of successful community functioning such as CANSAS, Community Participation and Employment. These findings contribute to a developing body of evidence that measurement of subjective recovery has validity in evaluation of global recovery for people with mental illness. They also lend weight to a relatively recent shift in emphasis from focus on purely objective indicators to interest in 'lived experience' of recovery (Meehan et al., 2008).

One of the interesting findings was that scores on the community participation measure had a somewhat weaker association with other indicators of recovery. This measure was originally developed for use with people with acquired brain injury and has, to our knowledge, been previously used on only one occasion with a sample whose primary diagnosis is severe mental illness (Lloyd et al., 2008). Community integration is an important outcome. Although a single definition

of community integration does not exist, common elements include relationships with others, independence in one's living situation and meaningful activities in which to participate in order to fill one's time (Salter et al., 2008). It should be noted that the instrument is heavily weighted with items that refer to local participation and that scores might be affected by duration of residence and also the extent to which a person's time is spent in the local neighbourhood. What this means is that people with mental illness who are employed or who have recently changed residence might obtain quite low participation scores even though they are actively participating in the broader community. This suggests the need for further development of this measure.

There are a number of methodological problems with this study. The sample was a convenience sample and recruited from only one health district, which may limit the generalizability of the findings. Second, cross-sectional survey methodology was used and while the findings suggest an association between variables, causal relationships cannot be inferred. In spite of the limitations of the present study, the findings contribute to the developing body of evidence that indicates measurement of subjective recovery has validity in the evaluation of global recovery for people with mental illness.

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