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A mediational model of quality of life for individuals with severe mental health problems

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ABSTRACT

Background. Despite the increasing importance of quality of life in the mental health field, the theoretical conceptualization of the construct remains poorly developed. A proposed mediational model of quality of life, which links subjective quality of life with self-related constructs, is examined with a group of long-term psychiatric hostel residents. The present study aims to develop a measure of quality of life based on the proposed model, to explore the data and their implications for service development and finally to conduct a preliminary analysis of the model's predictions.

Method. A cross-sectional research design was employed. Quality of life interviews, using a modified version of Lehman's Quality of Life Interview, were carried out with 54 psychiatric residents in Greece. The model's predictions were examined by using a series of regression analyses.

Results. The results indicate that perceived improvements in lifestyle, greater autonomy and positive self-concept are significantly and directly associated with better quality of life. In contrast, a direct relationship between objective indicators and subjective quality of life was not found.

Conclusions. The traditional two-part quality of life model that includes objective indicators of life circumstances and subjective indicators is extended to included the constructs of self-concept and perceived autonomy. The present extended mediational model of quality of life for individuals with long-term mental health problems appears to have important implications for the planning and delivery of mental health programmes.

INTRODUCTION

There has been an increased interest in the development of quality of life schedules to assess the perceived quality of life of individuals suffering from long-term mental health problems. However, the growing number of research studies have generated little theory and few of the empirical findings have been related to an overall theoretical model. No definitive theoretical framework has emerged from this research that can provide a useful guide to understand and interpret the quality of life findings (Cheng, 1988; Lehman, 1988; Barry, 1997). Much of the quality of life research in the area of mental health evaluation has been conducted in a relatively atheoretical context, relying heavily on a combination of objective and subjective indices, usually in the form of satisfaction measures. However, the traditional two-part quality of life model that includes objective and subjective (satisfaction) indicators of life circumstances has been found to be inadequate in describing comprehensively the quality of life of community-based individuals who suffer from mental health problems (Franklin *et al.* 1986). The structure of quality of life data indicates only a moderate correlation between objective indicators and satisfaction measures (Campbell *et al.* 1976), a moderate correlation between demographic characteristics and satisfaction measures (Baker & Intagliata, 1982; Lehman, 1983) and an ambiguity concerning how sensitive the life satisfaction ratings are in evaluating programme interventions (Barry & Crosby, 1996). These empirical findings

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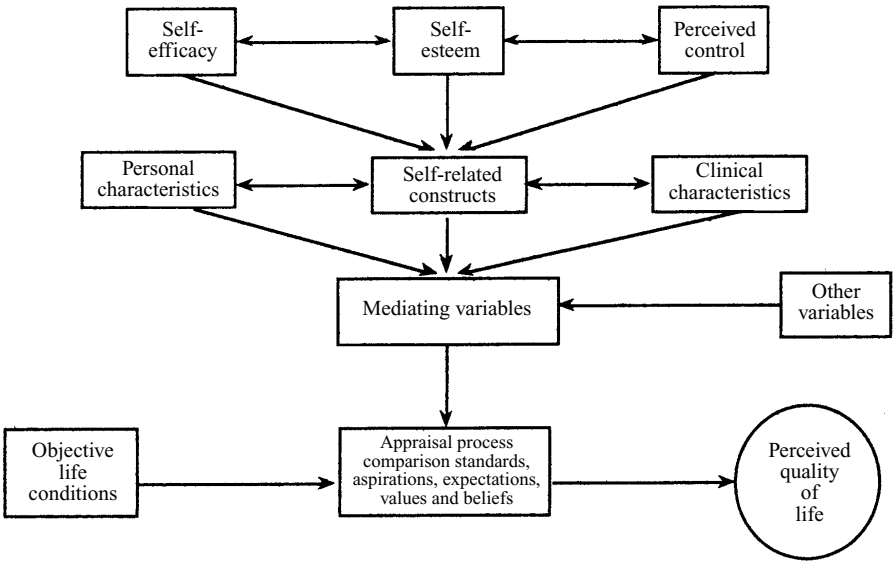

FIG. 1. Mediational model of quality of life.

from the quality of life literature suggest that there may be a need for models that link these objective indices (external conditions) with more psychological factors (internal states) that may be more central in the structure of subjective quality of life evaluations. The importance of these psychological factors such as self-worth, self-efficacy and autonomy has been highlighted by a small number of studies based on both community samples (Gutek *et al*. 1983; Abbey & Andrews, 1985) and samples of psychiatric clients (Franklin *et al*. 1986; Rosenfield, 1992; Arns & Linney, 1993; Mercier & King, 1993; Mechanic *et al*. 1994).

Drawing on previous quality of life findings in the mental health area (Rosenfield, 1992; Arms & Linney, 1993; Barry & Crosby, 1996), a mediational model of quality of life has been proposed by Barry (1997). This model focuses on the potential link between the self-related constructs and subjective evaluations of quality of life. As may be seen in Fig. 1, this theoretical model represents a set of hypotheses concerning how perceived well-being is mediated by a number of interrelated variables, such as self-related constructs and how subjective evaluations are influenced by cognitive mechanisms such as levels of expectations, aspirations and comparison standards. This paper sets forth a proposed model of quality of life that seeks to address the potential role of mediators of subjective quality of life and of an appraisal process that may intervene between the external life conditions and subjective evaluations. It is hypothesized that this appraisal process is mediated by a number of inter-related variables including self-related constructs. This approach has important implications for future research because it offers a useful theoretical framework that could help in the interpretation of the structure of quality of life data.

The aims of the present paper could be summarized as follows; (*a*) to develop a measure of quality of life based on the proposed model; (*b*) to explore the data and their implications for service development; and, finally (*c*) to conduct a preliminary analysis of the model's predictions.

METHOD

Sample

The sample consists of former long-term psychiatric in-patients who have been moved from psychiatric hospitals in Greece to community-based hostels. The majority of the residents were moved from Leros asylum in Greece. At the time of the present study, 99 former psychiatric in-patients were registered as hostel residents ($N = 99$). Of the group, 74 were males and 25 females, and their average age was 58 years

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(range 29–81). Most had a psychiatric diagnosis of residual schizophrenia (78%) and the average length of stay prior to discharge was 22 years, with a range of 1 to 40 years. Of the sample, 54 residents conducted the quality of life interview ($N = 54$). The remainder either had communication difficulties or declined to participate. Three residents were absent over the time of data collection.

Settings

The settings are 12 highly supervised community-based hostels that are distributed throughout the Greek mainland. The majority of the hostels provide 24-hour care and the staff: resident ratio is 1:2 with an average of eight residents in each hostel.

Research design

The present research is a cross-sectional study examining the impact of resettlement on the well-being of long-term psychiatric residents 4 years after the move from hospital (Zissi & Barry, 1997). Lamentably, no systematic baseline data are available from the hospital prior to discharge. Hence, the present study focuses on the hostel residents' subjective experience of the resettlement process and their current quality of life in the community settings. Quality of life constitutes one of a range of measures being used in the study. Ratings of psychiatric symptomatology were completed using the Krawiecka Rating Scale (KRS) (Krawiecka *et al*. 1977) and levels of behavioural and social functioning were rated on the REHAB scale (Baker & Hall, 1984), which was completed by care staff trained in its use.

Development of the modified Quality of Life schedule

The present Quality of Life schedule has been adapted from existing quality of life schedules. Lehman's Quality of Life Interview (Lehman *et al*. 1982; Lehman, 1988) and the Bangor Quality of Life Schedule (Barry *et al*. 1993) together with the mediational theoretical model proposed by Barry (1997) constituted the main frameworks for the development of the present Quality of Life schedule. The purpose of this schedule are to assess the perceived quality of life of long-term psychiatric clients in Greece, incorporating the measurement of self-related constructs, as outlined in the model, across the various life domains. The main considerations in developing this modified schedule were to introduce new additional items assessing self-related constructs, the simplification of complex evaluative judgements, the inclusion of 'transition' and 'expectation' scales and finally the exploration of the individuals' subjective experiences and aspirations by applying open-ended questions.

The modified version retains the same basic structure as Lehman's schedule and consists of 147 items, which include objective domain-specific indicators (e.g. monthly finances, frequency of family contacts) and subjective domain – specific indicators such as satisfaction measures ('very dissatisfied' to 'very satisfied'), transition scales of perceived change ('worse' to 'much better') and expectation scales of aspiration levels ('not at all as I would like to be' to 'exactly as I would like to be'). As the present sample consisted of long-stay hostel residents, many of whom were quite elderly and dependent, it was decided to adapt the interview schedule accordingly; the question items were kept as simple as possible, short and clear, investigating only one possible aspect of the object in question. The schedule includes nine life areas, living situation, social relations, leisure activities, finance, work, safety, health, family and religion. The sections on each life domain are organized in such a way that information is first obtained about objective life aspects, then about the individual's internal experiences in that life area and finally about the subjective evaluation. Therefore, the pairing of objective and subjective indices that runs through the various life domains also includes a number of variables referring to the individual's internal experiences. The methodological development of the quality of life mediators (individual's internal experiences) in the present quality of life schedule was the main task. A new set of variables were introduced as quality of life mediators. Items exploring internal experiences of self-concept and perceived autonomy were developed and incorporated across life domains in order to assess how subjective well-being in different life areas is mediated by these experiences. Quality of interactions between staff members and residents was also explored. It is important to note that existing global measures of the relevant concepts were considered inappropriate

for use with a chronic psychiatric population because these scales have been devised, developed and tested with the general population and mainly with college students and young adults (Blascovich & Tomaka, 1991; Bowling, 1995). Operationalization of the relevant quality of life mediators was guided by the need to ground these constructs in the everyday experiences and life concerns of a chronic psychiatric population. A section on global well-being is also included, which incorporates both quantitative and qualitative questions. A number of open-ended questions were included in order to explore the individual's aspirations, sources of happiness, sources of displeasure, significant life experiences and perceived comparisons of hospital and community life.

Translation issues

The present quality of life schedule was translated from English into Greek. The translation process tried to ensure conceptual, semantic and technical equivalence between the source measure and the target measure (Sartorius & Kuyken, 1994). The translation of the present instruments was carried out by the author, who is fluent in English. The translation accuracy was cross-checked by a Greek psychiatrist, with a Ph.D. from the United States and a Greek researcher in social anthropology, fully qualified as an English teacher and with a B.A. in psychology. Reliability checks were carried out to ensure the accuracy of the translation. The results from the relevant checks were satisfactory.

RESULTS

Internal consistency reliability

In the present study internal consistency reliability measures were computed for both objective and subjective indices together with the quality of life mediators across the various life domains of the modified Quality of Life schedule. Cronbach's alpha was used. As may be seen in Table 1, all the scales have reliability coefficients greater than 0·65, except the 'objective social contacts' scale (alpha = 0·56). Internal consistency reliability coefficients range from 0·56 to 0·81 for the objective indices, from 0·66 to 0·78 for the quality of life mediators, and from 0·68 to 0·85 for the subjective indices.

Table 1. *Internal consistency reliability estimates for composite indices of objective and subjective life domains and quality of life mediators*

Life domain	No. of items	Cronbach's alpha
Subjective indices		
Living situation	3	0·68
Social relations	2	0·68
Leisure activities	3	0·85
Family	3	0·76
Physical health	3	0·78
Global	3	0·73
Objective indices		
Frequency of family contact	2	0·74
No. of social contacts	7	0·56
No. of leisure activities	6	0·70
Physical health	3	0·81
Safety	2	0·79
Quality of life mediators		
Self-concept	5	0·78
Perceived autonomy	7	0·66
Staff interactions	3	0·68

These findings suggest that the composite indices are adequate for comparison purposes and compare favourably with those reported by Lehman (1983*a*) and Barry *et al.* (1993).

Content validity

One of the objectives of the present study was to explore staffs' and residents' perceptions of the quality of life concept in order to validate the quality of life domains as indicators of the effectiveness of mental health services. It was also hoped to gain a better theoretical understanding of the quality of life concept from the viewpoints of two 'interested groups': staff and residents. Of the staff members, 20 were randomly selected to discuss their perceptions of the quality of life concept. Respondents were asked to define and attach a meaning to the relevant concept.

From the staff's viewpoint, the 'material needs' domain referring to adequate living conditions and financial support was identified as the most important aspect in resident's quality of life ($N = 20$). The 'non-material needs' domain referring to feelings such as freedom, autonomy and self-worth was also reported as an important element, but less frequently reported ($N = 10$) compared to the 'material needs' domain. Residents were also asked to identify important areas in their lives and life

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aspects that make them happy. From the residents' viewpoint the 'family domain' ($N = 20$) and 'physical health' ($N = 18$) were identified as the most important aspects in their lives, and 'family contacts' was identified as the main source of happiness ($N = 16$). 'Leisure activities' both within and outside of the facility were described as a source of happiness for a small number of residents ($N = 9$). Finally, the answer 'I do not know' was received by eight respondents.

By exploring residents' reports of issues of importance and sources of happiness in their lives, content validity was ascertained. The findings indicate that most of the domains identified by the residents, family relations, physical health, leisure activities, religion, food, are already included in the present schedule. Interestingly, friendship and work were not identified by the residents as important domains. However, age and a long history of institutionalism may explain why these life aspects were not frequently reported by the residents.

Table 2. *Pearson product-moment correlation coefficents of:* (a) *perceived 'change', quality of life mediators and objective indices with overall subjective psychological well-being*; (b) *age and ratings of functioning with overall subjective well-being*

	Overall subjective well-being
(*a*)	
Perceived 'change'	0·62**
QoL mediators	
Self-concept	0·55**
Perceived autonomy	0·60**
Objective indices	
Family	0·22
Leisure	0·20
Social relations	0·18
Physical health	−0·11
Safety	−0·03
(*b*)	
Age	0·30*
Levels of dependency	−0·32*
Affective score	−0·04
Positive score	−0·04
Negative score	−0·01

* $P < 0·05$; ** $P < 0·01$.

Analysis

The present investigation aimed to examine, empirically, the quality of life model for individuals suffering from mental health problems that has been put forward by Barry (1997). Therefore, the relationship between objective indices, quality of life mediators (self-concept and autonomy), perceived 'change' and perceived overall subjective psychological well-being was examined by using various regression analyses. It needs to be made clear that perceived 'change' refers to perceived comparisons between the current conditions and the previous experience in hospital. The relationship between age, levels of dependency, depression and perceived overall subjective psychological well-being was also examined. The main form of analysis was multiple regression with overall subjective well-being as the dependent variable. Age, functional characteristics (levels of dependency and depression), objective indices (objective family, objective social contacts, objective leisure activities, objective physical health and objective safety), quality of life mediators (perceived autonomy and self-concept) and perceived 'change' were the independent variables. An overall subjective well-being index (OSWB) was computed by taking the mean of the reported levels of satisfaction across five life domains (living conditions, social relations, leisure activities, family, physical health) together with the reported satisfaction with life in general. Internal consistency reliability of the overall subjective well-being index was satisfactory with Cronbach's alpha = 0·61. Prior to presenting the results of the main analyses some descriptive data will be outlined.

Bivariate analysis

For the purpose of the main analysis, a bivariate correlational analysis was conducted between age, functional characteristics, objective indices, quality of life mediators and perceived 'change' with overall subjective well-being. These correlations were obtained following the reliability analysis of the relevant scales. The results are presented in Table 2. From this it can be seen that perceived 'change' is most highly correlated with overall subjective well-being, though the correlation with quality of life mediators (self-concept and perceived autonomy) is slightly lower. The objective indices were not found to correlate significantly with overall subjective well-bearing, whereas a modest correlation was obtained between levels of dependency, as

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Table 3. *Summary of multiple regressions of objective indices, quality of life mediators and perceived 'change' on overall subjective well-being*

Variables*	Mult. R	R^2	beta	df	F (P)
Objective indices	0·30	0·09		5, 27	0·54 (NS)
Family			0·18		
Social contacts			0·11		
Leisure activities			0·17		
Health			−0·03		
Safety			−0·01		
QoL mediators	0·66	0·44		2, 31	11·88 < 0·0005
Self-concept			0·29		
Autonomy			0·45		
'Change'	0·62	0·39	0·62	1, 34	21·58 < 0·0001

* Sets of variables entered separately.

measured by the Total General Behaviour score of the REHAB scale (Baker & Hall, 1984), and overall subjective well-being. No significant correlations were found between psychopathology, as measured by KRS (Krawiecka *et al.* 1977) and overall subjective well-being. Finally, a modest correlation was obtained between age and overall subjective well-being. One-way analysis of variance revealed no relationship between gender and overall subjective well-being, $F = 2{\cdot}50$, df = 1·41 (NS).

Main analyses

In order to examine the utility of objective indices, quality of life mediators (self-concept and perceived autonomy) and perceived 'change' in predicting overall subjective psychological well-being, the different sets of independent variables were initially entered independently in a series of multiple regression analyses. The main results are summarized in Table 3. It may be seen that perceived 'change', ($F = 21{\cdot}58$, df = 1, 34, $P < 0{\cdot}0001$) and quality of life mediators; self-concept and perceived autonomy ($F = 11{\cdot}88$, df = 2, 31, $P < 0{\cdot}0005$), independently account for a high proportion of the variance in overall subjective psychological well-being. While the objective indices; frequency of family contact, objective social contacts, objective leisure activities, objective physical health and objective safety, account for a very small and statistically non-significant proportion of variance ($F = 0{\cdot}54$, df = 5, 27, NS). A multiple regression on overall subjective well-being of the combined effects of self-concept, perceived autonomy and perceived 'change' account for 48 % ($F = 8{\cdot}28$, df = 3, 27, $P < 0{\cdot}0005$) of the variance in overall subjective well-being.

Table 4. *Summary of multiple regressions of age, levels of dependency and depression on overall subjective well-being*

Variables	Mult. R	R^2	beta	df	F (P)
Age	0·30	0·09	0·30	1, 41	4·17 < 0·05
Dependency	0·32	0·10	−0·32	1, 41	4·76 < 0·05
Depression	0·13	0·02	−0·13	1, 30	0·54 (NS)

* Variables entered separately.

With regard to age, levels of dependency and depression, the results indicate that both age ($F = 4{\cdot}17$, df = 1, 41, $P < 0{\cdot}05$) and levels of dependency, ($F = 4{\cdot}76$, df = 1, 41, $P < 0{\cdot}05$), explain small, but statistically significant, amounts of variance in overall subjective well-being. Interestingly, depression fails to account for any statistically significant proportion of variance in overall subjective well-being, $F(1, 30) = 0{\cdot}54$, NS. The results are presented in Table 4.

Looking at the role of the objective indicators in the structure of the quality of life data, it was found that these indicators explained a substantial and statistically significant amount of variance in self-concept ($F = 3{\cdot}19$, df = 5, 24, $P < 0{\cdot}05$) and in perceived 'change' ($F = 4{\cdot}16$, df = 5, 23, $P < 0{\cdot}01$). Objective indicators failed to account for any statistically significant variance in perceived autonomy. However, objective leisure indices appeared to have a strong association with levels of perceived autonomy (beta = 0·38). The results of the analysis are also graphically presented in Fig. 2.

Given the remarkable predictive power of perceived 'change' in the structure of the quality of life data, stepwise regression analysis was applied in order to examine the combined effects of the three sets of variables: levels of dependency, objective indices and quality of life mediators in predicting perceived 'change'. The results obtained from this analysis are summarized in Table 5. It can be seen that perceived autonomy appears as the best predictor, explaining 39 % of the variance ($F_{\text{change}} = 14{\cdot}94$, $P < 0{\cdot}001$), followed by frequency of

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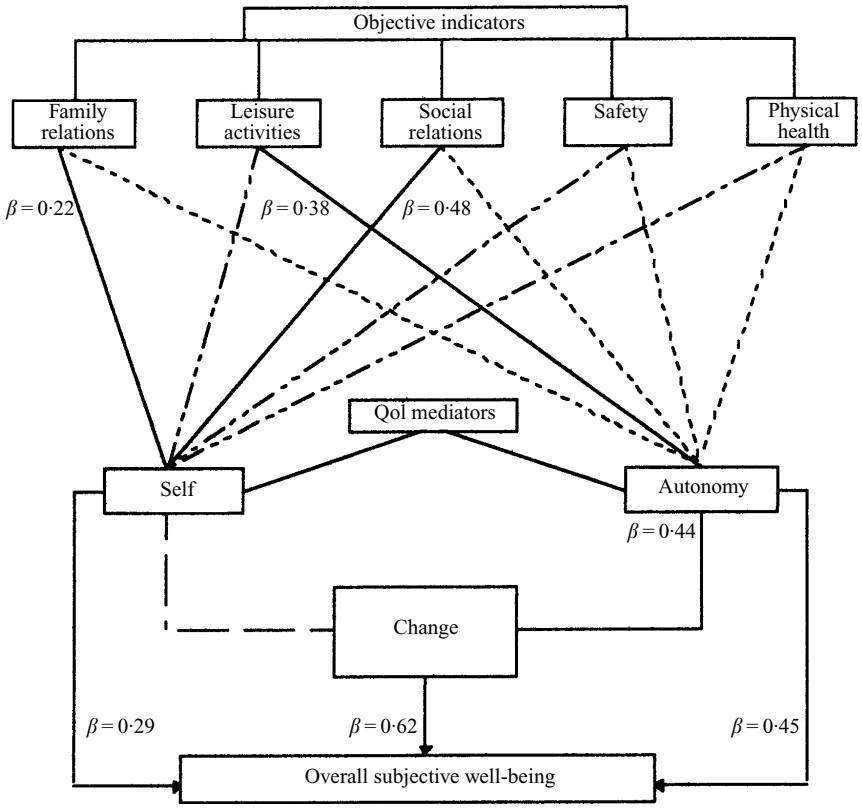

FIG. 2. Empirically-supported mediational model of quality of life. Broken lines represent non-significant betas. (Personal variables: age $\beta = 0{\cdot}30$; levels of dependency $\beta = -0{\cdot}32$; depression $\beta = -0{\cdot}13$.)

Table 5. *Summary of a stepwise multiple regression of levels of dependency, objective indices and quality of life mediators on perceived 'change'*

Steps*	Mult. R	R^2	R^2 change	beta	F_{change} (P)
1	0·63	0·39	0·39	0·48	14·94 < 0·001
2	0·72	0·52	0·12	0·39	5·68 < 0·001
3	0·79	0·62	0·10	−0·32	5·45 < 0·001

* Variables; 1, perceived autonomy; 2, family contact; 3, levels of dependency.

family contact which adds a statistically significant proportion of variance ($F_{\text{change}} = 5{\cdot}68$, $P < 0{\cdot}001$) and finally, levels of dependency adds a smaller, but statistically significant, amount of variance ($F_{\text{change}} = 5{\cdot}45$, $P < 0{\cdot}001$).

Overall, what appeared to be more influential in the construction of the subjective quality of life evaluations were both perceived 'change' and the quality of life mediators of self-concept and perceived autonomy. Within the model, the strongest association was between perceived 'change' and subjective psychological well-being. Perceived improvements in residents' lives followed the move from hospital to community care settings had the most predictive power in the residents' evaluations of their current quality of life. Regarding the quality of life mediators of self-concept and perceived autonomy, the analysis demonstrated the importance of these variables in the structure of the quality of life data. Both self-concept and autonomy were critical in predicting perceived levels of subjective psychological well-being. The objective indicators had no predictive power on subjective psychological well-being directly. Interestingly, depression was found to have no influence on the structure of the quality of life data whereas levels of dependency were found to have an impact on both perceived subjective well-being and perceived changes. The less dependent

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residents seemed to perceive more changes in their lives since resettlement and, therefore, to enjoy a greater sense of subjective psychological well-being. Finally, the analysis revealed that perceived autonomy, frequency of family contacts and levels of dependency were the key variables in explaining residents' perceived changes in their lives.

DISCUSSION

The present analyses are based on data from a cross-sectional study and are, therefore, not really appropriate for investigating the impact of self-related constructs and perceived 'change' on overall subjective well-being. In order to investigate how self-related constructs and perceived 'change' relate to overall subjective psychological well-being in a more direct way, a longitudinal approach is needed.

The present study provides evidence that self-related constructs and perceived 'change' are directly and strongly linked with subjective well-being evaluations. In contrast, a direct relationship was not found between objective indicators and subjective quality of life evaluations. However, given the relationships of objective indicators with self-related constructs and perceived 'change', then the influence of the objective indices can be said to be indirect. Indeed, interrelated self-constructs were found to mediate between external conditions and subjective quality of life evaluations. Residents were able to register changes in their lives and to articulate comparisons between their previous conditions and the current circumstances. These comparisons between life in the hospital and current lifestyle had the most predictive power in the overall index of subjective psychological well-being. The variable of perceived change was explicitly measured in this study in order to determine how the changes in the external living conditions were perceived and appraised by individual residents. Previous studies have not explicitly assessed this phenomenon. While quality of life studies of the impact of re-settlement from hospital to the community, usually involving a considerable degree of change in resident's lives, have reported changes in the objective quality of life indicators, corresponding changes in the subjective indices have not been evident. This is why the variable of perceived change was therefore, explicitly included in the proposed model in order to determine the extent to which external changes impact on the lives of residents in a perceptible manner and how these changes then mediate the subjective appraisal of quality of life. To this end, transition scales assessing the individual's perception of changes when comparing life in hospital and life in the community, were included in this study. Lamentably, it was not feasible to examine the role of expectations in the construction of the quality of life data because residents were not able to articulate responses to the relevant scale.

The above findings receive support from the quality of life literature. Arns & Linney (1993) identified in their study the concept of 'change' as a better predictor in comparison to static measures in the assessment of subjective well-being of individuals suffering from mental health problems. Also, they found an indirect impact of self-esteem through self-efficacy on life satisfaction. Levels of autonomy appeared to be the most influential variable in promoting patient's quality of life in Mercier & King's study (1993). On the same lines, Rosenfield (1992) reports that components providing economic independence and empowerment affect quality of life because of their relationship to the individual's sense of mastery.

The absence of any relationship between depression and subjective quality of life is quite a surprising finding given the research evidence in a number of studies that depression appears as a strong predictor of overall subjective psychological well-being (Abbey & Andrews, 1985; Lehman, 1988; Mechanic *et al.* 1994; Corrigan & Buican, 1995). It is possible that the simplified variable of depression (single item from the Krawiecka scale) that was applied in the present analysis may not be the best indicator of depression. It is also important to bear in mind that the levels of depression for the present long-stay sample are low and stable.

Looking at the variables that best predict the residents' perceived improvements, the analysis revealed that greater autonomy, more frequent family contacts and better social functioning skills were associated with more positive changes. Positive family relations between psychiatric clients and their families have been found to enhance client's perceived quality of

life (Sullivan *et al*. 1992), whereas poor family relations between psychiatric clients and their families have been found to predict hospital recidivism (Postrado & Lehman, 1995). Concerning the role of social functioning in the structure of quality of life data there are findings that show that individuals who report greater quality of life are more likely to have attained better levels of social functioning (Mercier & King, 1993; Corrigan & Buican, 1995). Quality of life has been often defined in terms of environmental mastery or adaptive functioning (Bigelow *et al*. 1982; Franklin *et al*. 1986; Fabian, 1990) and has been related to experiences of self-mastery (Jahoda, 1958).

The overall framework of the model proposed by Barry links quite well with a psychosocial model of intervention and may prove quite useful in exploring how service input impacts on client's self-perceptions and thereby affects their quality of life. Self-esteem, self-efficacy and sense of mastery have long been recognized as critical factors in the long-term success of rehabilitation (Shaffer & Gambino, 1978; Rosenfield, 1987). However, it is startling how little is known about how service programme components affect client's self-perceptions. Individuals with long-term mental health problems suffer from damaged self-esteem (Estroff, 1989), low levels of perceived self-efficacy (Hays & Buckle, 1992), stigma (Goffman, 1963) and feelings of powerlessness and hopelessness (Rosenfield, 1989). Thus, psychosocial interventions should be designed to improve clients' personal resources. The findings support the contention that interventions that raise clients' self-concept and autonomy are likely to raise overall subjective psychological well-being. Arns & Linney (1993) suggest that psychosocial programmes may begin to repair client's damaged self-images by helping them to fulfil the new, more desirable roles of community members. The empowerment approach to treatment (Rappaport, 1985) may offer a useful theoretical framework for designing psychosocial interventions. Finally, the frequency of family contacts appeared as a strong predictor in perceived changes, which points to the need to design interventions that improve and support positive relationship between residents and their families. Resettlement programmes should encourage any existing family contact and establish family groups that will help family members to cope with the mental health problems of their relatives.

Future research needs to examine the application of self-related constructs with a psychiatric population as the existing global self-related scales have been devised and developed with general populations such as students and young adults. The development of self-related scales appropriate for use with a psychiatric population which will be grounded in the clients' everyday experiences and concerns is a promising area for future research. A longitudinal study with a larger sample is needed in order to test fully and validate the model. The findings from this preliminary analysis of the model's predictions are generally supportive. However, further investigation of the model with a complete set of variables is required. Statistical techniques such as structural equation modelling would prove quite useful in validating the path diagram suggested by the findings from this study. The preliminary analysis of the model reported in this paper needs to be followed up with more extensive testing of the direction of effects of the mediational variables using a larger sample with a more complete set of variables.

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