The Self: How Does it Relate to Locus of Control, Quality of Life and Adaptive Behaviour for People with Mild Intellectual Disabilities?

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Research has found that when people with intellectual disabilities are moved from institutions into smaller community-based services, positive outcomes have been recorded (Emerson and Hatton, 1996; Larson and Lakin, 1989; Young *et al.*, 1998). However, positive outcomes have not been inevitable. It is now recognised that mere placement in the community is not always sufficient (Jahoda, Markova and Cattermole, 1990). Individual characteristics of clients and the nature of services received in the community may be very significant to maintaining normalisation and social role valorisation. Areas that have consistently been found to have an impact on community-based living are the social competencies and affective functioning of people with intellectual disability (Ralph and Usher, 1995). Given the recognised importance, it is surprising that these factors have not been the focus of more research in either the Australian or overseas context. This paper presents results from a study examining the social competence and affective functioning of people with intellectual disabilities. It describes the relations found for this population between multi-dimensional self-concept and locus of control, and quality of life.

Introduction

Quality of life (QOL) is a social construct that is affecting program development and service delivery in the fields of education, health care, intellectual impairment and mental health (Schalock, 2000). The concept of quality of life is also being used as the criterion for assessing the effectiveness of services for people with disabilities. In the past 20 years, there was a plethora of definitions, conceptualisations and ways of measuring quality of life. In recent times there have been significant conceptual shifts, including recognising the multidimensional nature of quality of life; the use of the subjective as the primary measure of quality of life; and the use of multivariate research designs to measure important study correlates. This present paper explores the contribution of self-concept and locus of control to objective and subjective quality of life using multiple regression techniques and examines the relation of these variables to quality of life.

Multidimensional Nature of Quality of Life

There is increasing agreement that quality of life is a multidimensional concept that precludes reducing it to a single entity. In fact, most researchers now recommend the abandonment of the summed score for comparison processes, particularly as a large volume of research has found that objective and subjective measures of QOL are independent (Cummins, 2000). Quality of life is now thought of as a composite of domains although there is still some contention about the number and nature of multidimensional domains (Schalock, 2000). Cummins (1996) based on a synthesis of 32 studies, found that 83% of the data could be classified under the seven domains of his Comprehensive Quality of Life Scale (Com-Qol: Cummins, 1993a) as material well-being, health, productivity, intimacy, safety, place in

community and emotional well-being. Hence, it is now advocated that there is a need to assess multi-dimensional components of QOL.

Focus on Subjective Quality of Life

It is clear that any measure of quality of life is incomplete without a measure of how people perceive and judge their own life. Indeed, Taylor and Bogdan (1996) said that "Quality of Life is a matter of subjective experience. The concept has no meaning apart from what a person feels and experiences". There are problems in measuring subjective factors, particularly for people with intellectual disabilities, as it is difficult to determine whether their responses are valid or due to acquiescence. However, it is now being recommended that subjective QOL be used as opposed to objective standards of QOL. Therefore, despite the difficulties in measuring subjective indicators of QOL, it is imperative that they be measured for this population.

Multivariate Research Designs

Historically, the study of quality of life has been determined from a between groups or conditions approach. Investigators have tried to discriminate across countries and populations those which had higher or lower QOL. There has been a recent positive shift to a multivariate/within group approach. This paradigm shift has led researchers to focus on the correlates and predictors of QOL rather than comparing QOL scores across countries and populations. Multivariate research designs can be used to determine the relation between conceptually related predictor variables and QOL. Once these significant predictors can be identified, this information can be utilised to inform programmatic changes to enhance a person's QOL.

Two important predictor variables that would seem to relate conceptually to subjective QOL are multi-dimensional self-concept and locus of control. These have received scant attention. People with intellectual disabilities experience limited choice and opportunities to make decisions, however, there is emerging evidence that self-determination skills are vital for important adult outcomes (Wehmeyer and Schwartz, 1997). Hence, multivariate designs that examine QOL, multidimensional self-concept, self esteem and locus of control could be of potential significance.

Methodology

Study Design

The data presented here are the Time 1 data from a larger longitudinal study focused on assessing the impact of deinstitutionalisation on adults with mild intellectual disability.

Participants

The participants were 52 adults with an intellectual disability. The participants ranged in age from 18 to 65 with the mean being 42 years. Forty three of the participants were in the mild range of intellectual functioning and 9 of the were in the mild to moderate range. The length of time these people had been institutionalised ranged from 3-35 years.

Instruments

Self-concept.

The instrument chosen to measure self-concept was the Self Description Questionnaire (SDQ III)(Marsh, 1988). It is a multidimensional instrument, with 9 subscales. The SDQ III self-concept instrument was based on the Shavelson and Marsh multi-dimensional model of self-concept (Marsh, Byrne and Shavelson, 1988). The SDQ III has excellent psychometric properties. The SDQ III was originally designed for use with late adolescents and young adults. Each dimension is measured using 10-12 items. Usually participants respond using an 8-point Likert type scale. The dimensions are Physical Appearance, Physical Ability, Honesty, Emotional Stability, Problem-solving, General Self-concept, General Esteem, Academic Self-concept, Maths Self-concept, Same Sex Relations, Opposite Sex Relations and Parent Relations.

Some changes were made to the administration procedure as a result of pilot testing. These included changing all items to positive wording, using a pictorial 5 point scale and reducing the number of items in each scale by 3. This was because people with intellectual disability were fatigued by repetition, and thought that they had answered questions incorrectly if they were asked again to answer an item with slightly different wording. The wording of the parental scale was adjusted for some participants, as contact with parents had been minimal for many years. Although testing procedures were standardised, the one-to-one administration allowed the testing situation to accommodate participants' specific needs so that valid responses were made to the questions.

Self-esteem

The Coopersmith Self-esteem Inventory (Adult Version) Short Form (Coopersmith, 1981) was used to assess global self-esteem. It is designed to measure evaluative attitudes towards the self in social, academic, family and personal areas of experience (Coopersmith, 1981, p.1) The term self-esteem is defined as “an expression of approval or disapproval . . . [of] the extent that a person believes him- or herself competent, successful, significant and worthy" (pp.1-2). Researchers have found it to be reliable and valid with few differences found between males and females on the Short Form (Francis, 1997). However, relatively little psychometric data is available for the Adult Form (Coopersmith, 1981).

In the original standardisation, Coopersmith (1981) administered the Adult Form to 226 community college and state university students in northern California. Coopersmith (1981) offered basic descriptive statistics for this college sample (means, standard deviations, and coefficient alpha). New normative data from Lall, Jain and Johnson (1996) on a larger sample were remarkably similar to the normative data reported by Coopersmith (1981). Therefore, it was decided to use the original norming data. Coopersmith (1981) reported a mean score of 68.4 and standard deviation of 18.5. Higher scores reflect higher self-esteem. Coopersmith also suggested that scores below 25 be considered low self-esteem, those above 75 be reported as high self-esteem.

Locus of Control

Locus of Control was assessed using the Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE)(Nowicki and Duke, 1974). This scale is widely used in assessing adult locus of control (Kearney and Kearney, 1983). Most findings (Wehmeyer, 1994) indicate that the ANS-IE is a dependable instrument for assessing important facets of locus of control. Indeed it is the instrument that is used in the most rigorous research studies that have employed this construct with people with mild intellectual disabilities. The scale consists of 40 items

answered in a “yes or no” format. The scale includes questions pertaining to problem-solving style (e.g.”Do you believe that most problems will solve themselves if you just don't fool with them?”), the role of luck or fate versus hard work and persistence (e.g. “Do you think it is better to be smart or to be lucky?”), and general perception of futility and helplessness versus control and choice (e.g. “Do you feel you have a lot of choice in deciding who your friends are?”).

The scale has split-half reliability figures ranging from 0.74 to 0.86 with test-retest reliability figures ranging from 0.63 to 0.76 and was designed to be administered either individually or in group settings. The assessment yields a final score based on the number of items answered in the external direction: the higher the score, the more external the person's orientation. Although normed with individuals without disabilities, the instrument has been used to determine locus of control orientation for individuals with intellectual impairments in previous research (Wehmeyer, 1993a). Wehmeyer (1993a) determined that the factor structure of the ANS-IE when used with adolescents and adults with intellectual disability was comparable to the factor structure for adolescents and adults without disabilities.

For the purposes of the present investigation the wording of some items was modified to remove terms that were unfamiliar to the participants, e.g. the word “grades” was changed to “marks”.

Quality of Life.

Quality of Life (QOL) was assessed using the Comprehensive Quality of Life Scale-1D (Cummins, 1993a) (ComQol). The ComQol Scale was developed to measure multidimensional facets of QOL. It consists of three parallel forms: one for the general adult population (ComQol-A) (Cummins, 1993a), one for the adolescent student attending school (ComQoI-ST), and one for people with an intellectual disability (ComQol-ID). QOL as measured by this instrument contains both objective and subjective domains that are each measured by the aggregate of seven domains: material well-being, health, productivity, intimacy, safety, place in community, and emotional well-being. Objective domains comprise culturally-relevant measures of objective well-being. Subjective domains comprise domain satisfaction weighted by their importance to the individual.

The ComQol-ID, the measure used in this research, incorporates three features that have all been recommended to overcome some of the problems found in assessing QOL in people with intellectual disabilities. These are: a pre-testing protocol, pictorial representation and provision of a parallel scale so a third-party can provide vicarious responses on behalf of the person with a disability. The last characteristic of this test was not used in this research because all of the participants were able to complete the pre-testing protocol.

The Com-Qol has specific features that make it particularly appropriate for people with intellectual disabilities. Firstly, the Com-Qol has 7 domains: material well-being, health, productivity, intimacy, safety, place in community and emotional well-being thus addressing the multidimensional structure of QOL proposed by previous researchers as appropriate for adults with intellectual disabilities (Schalock, 2000). Secondly the Com-Qol includes both independent measures of objective and subjective components as proposed as important by previous research (Cummins, 2000). Each subjective domain is rated in terms of its importance and satisfaction to the individual. Finally, the questions are written in simple language that can be readily understood by people with mild intellectual disability.

The test developers have indicated that the psychometric properties of the Com-Qol are adequate although Cummins *et al.* (1994) admitted that the psychometric data is limited. Cummins *et al.* (1994) have found that 2, 3 or 5 point responding regimes were not significantly different and advised including data from all clients. All scores are converted to a standard scale provided by Cummins (1992a). The internal scale reliability total score reported was 0.56 but the reliability individual scales ranged from 0.11 to 0.65. All but two of the scales fell within the recommended range of 0.3 to 0.7.

For the subjective data Cronbach's alpha for the combined seven scales of importance was 0.48, 0.65 for satisfaction and 0.68 for importance times satisfaction combined. The test-retest correlations at 1-2 weeks are generally high with the exceptions being the importance of intimacy and satisfaction with safety. However, beyond the 2 week interval the test-retest correlations become erratic. Bases on these results the authors concluded that the psychometric properties of the ComQol-ID were generally acceptable in terms of internal consistency and re-test reliability, although the latter was unstable after 2 weeks.

An important feature that was used in this research was the replacement of the Likert Scale with a series of faces depicting happy to sad. This helped the participants make accurate judgments, along the continuum of happy and sad.

Testing Procedures

A battery of standardised tests was administered to each participant. Testing people with intellectual disabilities is fraught with difficulties. They are much more likely to answer acquiescently, particularly if the questions are controversial, seek personal information, are too difficult, or the interviewer is perceived as being threatening. To minimise some of these problems certain procedures were introduced. Firstly, the literature was searched to find which standardised tests were being used most often in other studies with people with intellectual disabilities. These tests were then examined for simple language and response formats. A pilot study was conducted (n=8) to determine the adequacy of the chosen tests, scoring procedures and questionnaire instructions. Changes were made to the administration of SDQ III after this pilot. For example, the wording of all of the questions was made positive. Secondly, all testing was completed by the first author who visited people in their rooms before the beginning of testing. She explained the purpose of the research, and emphasised the confidentiality of the results. The researcher participated in communal activities and outings for 3 days before any testing was begun, and continued her involvement with the participants throughout the testing period. Thirdly, a testing protocol was designed where the two longer tests (the Com-Qol and SDQ III) were interspersed with 2 shorter tests (the Coopersmith and the Nowicki -Strickland). The Com-Qol was administered first, the Coopersmith was administered second followed by the SDQ III and the adult version of the Nowicki-Strickland. This arrangement allowed testing to be split into two sessions if the participant exhibited fatigue. The Com-Qol was administered first because in the pilot testing respondents were able to answer this quite easily given it contained demographic information and the respondents were very familiar with this information. Participants were also encouraged to ask the researcher any questions they did not understand. As most of the participants had limited reading ability, all tests were administered in a one-to-one situation, with all questions being read out by the researcher. The researcher also filled in the answers. Hence all of the participants responded to the items orally. Individuals who were not sufficiently verbal to answer the instruments were not included in the study.

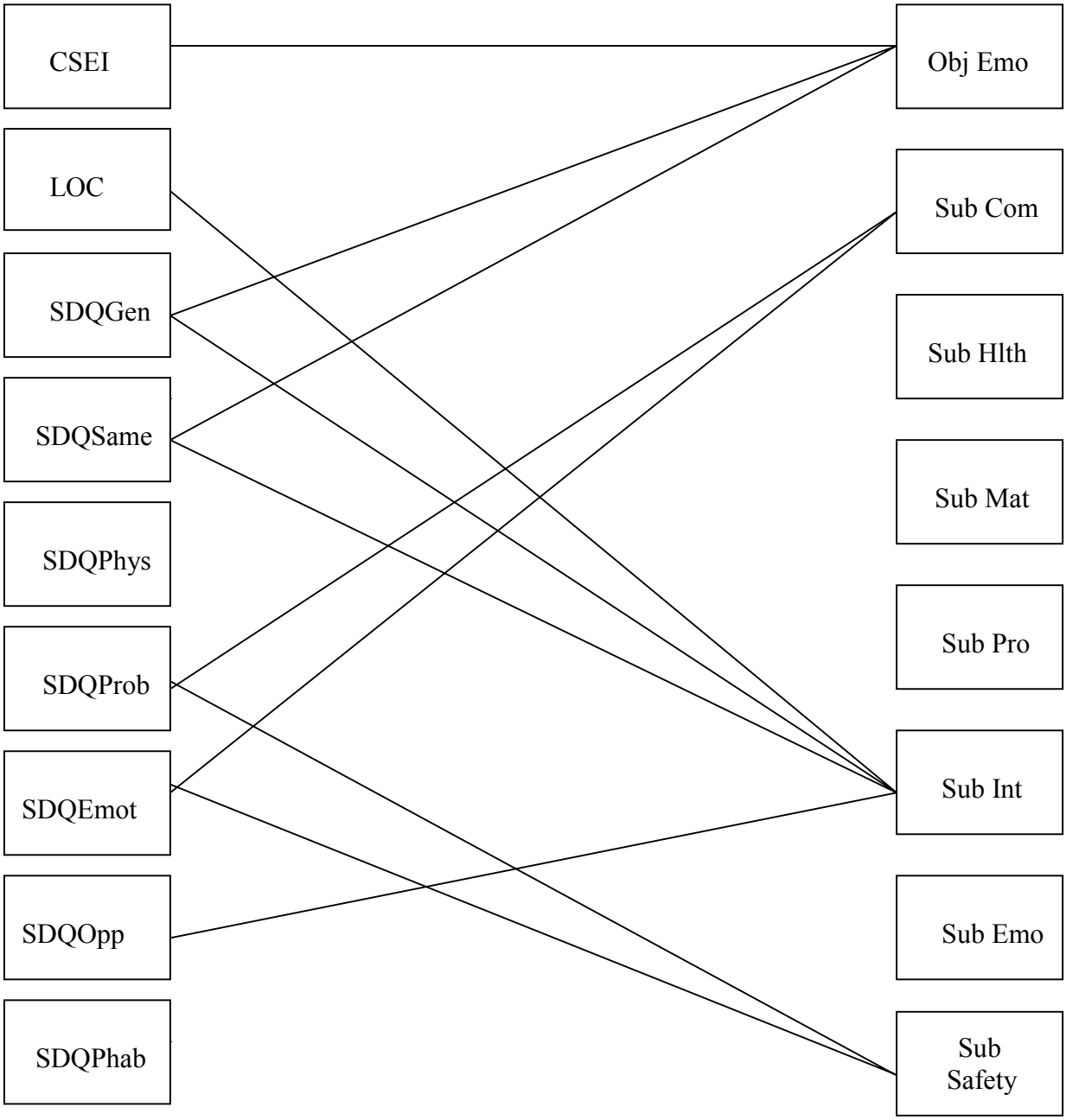
Statistical Procedures

Multiple linear regression models with separate analyses for each of the objective and subjective domains of QOL as measured by the Com-Qol (Cummins, 1993a) were used to study the relations of multi-dimensional self-concept, self-esteem, locus of control (independent variables) to QOL (dependent variables). The eight predictor variables are listed in Table 1. Exploratory factor analysis revealed no higher order factor for either objective or subjective QOL. All tests of significance were two-tailed and the significance level was set at $p<0.05$.

Table 1: **Descriptions, Means and Standard Errors for each of the Predictor Variables**

Predictor Variable	**Description**	**Mean N=52**	**S.E.**
CSEI	Self-esteem	51.22	15.42
LOC	Locus of Control	19.13	4.04
SDQGEN	SDQIII General Subscale	5.74	1.59
SDQSAME	SDQIII Same Sex Subscale	5.92	1.89
SDQPHYS	SDQIII Physical Appearance Subscale	5.54	1.80
SDQPROB	SDQIII Problem-solving Subscale	4.33	1.87
SDQEMOT	SDQIII Emotional Subscale	4.83	1.88
SDQOPP	SDQIII Opposite Sex Subscale	3.98	2.15
SDQPHAB	SDQIII Physical Ability Subscale	4.33	2.36

Figure 1: **Multiple linear regression models of the influence of multi-dimensional self-concept, self-esteem, locus of control on Com-Qol, Objective and Subjective scales.**



Results

Multiple linear regression models with individual Com-Qol scales are summarized in Fig 1. The predictor variables did not show any significant relations with six of the seven objective subscales of quality of life. The exception to this was Objective Emotion where Self-esteem, the SDQIII General Subscale and the SDQIII Same Sex subscale were significant at the $p<0.01$ level.

However, there was a different pattern of results for the Subjective subscales. There was no significant relation between the predictors and the subjective subscales for Community, Health, Material, and Productivity. There was not a relation for Subjective Emotion, however there was a significant relation between Subjective Intimacy and Locus of Control, SDQ General Subscale, SDQIII Same Sex and Opposite Sex Subscales. For Subjective Safety there were significant relations with SDQIII Problem-solving and Emotion Subscales.

Discussion

The fact that there was no higher order factor that could be found for either objective or subjective quality of life, supports the general findings in the field and validates the use of the multidimensional scales. It seems that the continued use of the total scores for overall quality of life measures may not be justified either conceptually or psychometrically.

As previously found in the literature, the objective and subjective facets of quality of life seem to be operating independently, so it is not surprising that very few relations were found between the objective scales and the affective variables. Conceptually, self-concept, self-esteem and locus of control should relate more closely to subjective quality of life. It seems that the views a person holds of themselves relate to the subjective view that they hold of their quality of life. The only objective scale which showed any relation to the affective variables was Objective Emotion. This scale related to self-esteem, the general scale and the same sex scale on the SDQ III.

Subjective Intimacy was related to Locus of Control, SDQ General, Same Sex, and Opposite Sex, implying that people who feel more comfortable in their relations with family and friends, feel more in control of their lives, have high general self-concept and high self-concept in relations to other people.

Subjective Community and Subjective Safety were related to SDQ Problem-solving and Emotion implying that people who are better problem-solvers and have higher emotional self-concepts may have a better quality of life in terms of how involved they are in the community and how safe they feel. This finding has implications for people who are being prepared to live in the community.

If the quality of life of people with intellectual disabilities who want to move to the community is to be improved, these results have implications for the design of enhancement programs. Although these results are preliminary, there would seem to be indications that the enhancement of self-concept, locus of control and problem-solving interventions could be useful in increasing the subjective quality of life for people with disabilities.

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