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The Measurement of Multidimensional Self-Concept in Adults with Mild Intellectual Disability [R]

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Although self-concept is now recognised as a multidimensional construct, unidimensional measurement is still common practise for adults with mild intellectual disabilities. For this study, two groups of adults with intellectual disabilities were chosen from two institutions. One group were being prepared to move to community living (Movers) and the other group were staying at their residential service (Stayers). All of the participants had an IQ within the range of 56-75 for those with mild intellectual disability and within the range of 45-56 for those with mild-moderate intellectual disability. Group 1 consisted of 25 adults who had a mean age of 47.9 years *SD* 9.7 years. Group 2 was a comparison group of 27 who were living in a different residential facility and had a mean age of 36.1 years *SD* of 8.1 years. Multidimensional self-concept was measured by *Self Description Questionnaire-III* (SDQ-III) and the *Coopersmith Self-esteem Inventory* (SEI) (Adult Version) Short Form was used to assess global self-esteem. The results indicated that the use of the SDQ-III was valid for adults with mild intellectual disabilities as long as a modified individual testing format was used.

Introduction

Self-concept theory was first formulated by James in 1890. At that time, James theorised that there was a hierarchical order to the self (Bracken, 1996). Although the specific structure of the self, outlined by James, has not been borne out in current research (Shavelson, Hubner & Stanton, 1976), James' proposition that self-concept is multidimensional has been validated.

During the behaviourist era of the 1950s to the 1970s, James' original formulation of multidimensionality was ignored and self-concept was conceptualised as a global construct (Coopersmith, 1967). Research studies utilising the unidimensional model of self-concept have historically predominated in the field of intellectual disability as well. However, over the past two decades a substantial amount of research by Marsh and his colleagues (see Marsh & Hattie, 1996) has demonstrated that self-concept is a multidimensional construct (Marsh, 1989a). These researchers have theorised that a general global self-concept score masks important distinctions that individuals make in their self-concept relating to different domains in their lives. Also, they have argued that the dubious use of global self-concept has led to the contradictory findings which are prevalent in general population for people with intellectual disabilities. The acceptance of the theoretical multidimensionality of self-concept also has implications for its measurement in that the instrumentation utilised needs to be capable of measuring multiple domains of self-concept.

The Multidimensional Model of Self-Concept

There are a number of models that have conceptualised a multidimensional self-concept (for a review see Marsh & Hattie, 1996). However, the model that has received the most empirical support is that of Shavelson et al. (1976) who attempted to remedy the significant problems in self-concept research by proposing a multi-faceted hierarchical model of self-concept. They suggested that self-concept is a multidimensional structure containing multiple dimensions or facets; the multiple dimensions become more context specific lower down the structure; the context specific facets become increasingly stable with age; and that facets contain both the elements of evaluation (affective) and description (cognitive) (adapted from Shavelson et al., 1976). Although this model has been very influential in subsequent self-concept research with the general population, it has never been used to examine the self-concept of adults with intellectual disabilities.

The Measurement of Self-Concept

At the time Shavelson et al. developed this model, none of the unidimensional instruments available were appropriate measures for this new conceptualisation of the self. To address this need, Marsh developed the Self-Description Questionnaire (SDQ) instruments to measure the different areas of self-concept that were derived largely from the Shavelson et al. model (Marsh, 1988, 1989b). Extensive theoretical and empirical research (reviewed by Byrne, 1996) has provided strong tests of the Shavelson et al. (1976) model (Marsh & Craven, 1997). The extensive work of Marsh, using the SDQ instruments, has supported the multidimensionality of self-concept and the domains proposed by the Shavelson et al. model. It has also led to an important revision of the theoretical model for academic self-concept which incorporates frame of reference effects, which has become known as the Marsh/Shavelson model (Marsh & Shavelson, 1985). The use of the SDQ instruments has also extended theoretical conceptualisations about the structure of self-concept and its relation to other constructs. The SDQ instruments are considered to be the strongest self-concept measures available internationally (Hattie, 1992; Marsh & Craven, 1997) and have excellent construct

validity and psychometric properties (Byrne, 1996; Hattie, 1992). In addition they have recently been employed in research with children with disabilities (Johnston, 2001; Tracey, 2002) and hence have the potential to be useful in research with adults with intellectual disabilities.

Literature Review

The Significance of Self-Concept and Self-Esteem Constructs for People with Intellectual Disability

Enhancing self-esteem/self-concept is widely regarded as a desirable goal for the general population, but it is of particular importance for people who have a higher incidence of failure and lack of control of their lives and who may be perceived as vulnerable, such as those with intellectual disability (Zetlin & Turner, 1985; Craven et al., 2003).

Research has not consistently found that individuals with learning, physical and sensory disabilities have lower levels of self-esteem and self-concept than their typically developing peers (Chapman, 1988; Llewellyn & Chung, 1997). A more consistent pattern has been that people with these disabilities score lower on the domains of self directly related to their disability (Chapman, 1988; Grolnick & Ryan, 1990). For example, Grolnick and Ryan (1990) found that students with learning disabilities scored lower on measures of cognitive competence and academic self-regulation relative to the non-disabled control groups, but they did not differ on general self-perceptions. The multidimensional self-concepts of people with physical disabilities in Hong Kong were only lower on the subscales that related to physical self-concept and material self-concept (Tam, 1998). In addition, an Israeli study found there were no differences between the self-concept of adults with learning disabilities and “non-handicapped adults” (Reiter & Bendov, 1996). However, as yet the research literature is inconclusive about the self-concept of people with mild intellectual disabilities.

Limitations of Previous Self-Concept Research on People with Intellectual Disabilities

The use of the unidimensional model of the self may help explain some of the numerous anomalies that have occurred from the attempts to measure the self-concept of people with intellectual disabilities. As with the general field of self-concept research, research with people with intellectual disabilities has had the same problems as has self-concept research more generally (i.e., the lack of theoretical bases, lack of theoretical research designs, poorly designed instruments and reliance on unidimensional instruments which still persists in this research area). These problems have resulted in conflicting patterns of results. Other problems specific to research with people with intellectual disabilities include small sample sizes due to the nature of the population that do not permit psychometric evaluation of measurement tools or sophisticated statistical analysis. The use of small sample sizes also results in more difficulty in achieving statistical significance so there is a tendency to over-interpret chance results.

To overcome small sample sizes, some studies include students with a range of disabilities. However, Johnston (2001) has found that different disability groups of children score quite differently on multidimensional measures of self-concept and recommends that it is unwise to group people with differing disabilities together when assessing multidimensional self-concepts. Therefore, the results of studies combining participants with different presenting disabilities could be confounded. Some of these anomalies, along with the difficulties in testing people with intellectual disabilities, actually led to the call for the abandonment of using standardised measures of global self-concept for adults with intellectual disabilities (Zetlin & Turner, 1988). Zetlin and Turner and others advocated the use of qualitative interviews to examine the self-concept of people with intellectual disabilities.

Current Self-Concept Instrumentation for People with Mild Intellectual Disabilities

Over the past 20 years there have been many efforts to assess the self-concepts of persons with intellectual disabilities. In general as discussed above, researchers have used unidimensional self-report scales and have obtained conflicting results. Explanations of these conflicting results have included mention of more general problems with the measurement of self-concept itself. Such criticisms have been directed at the vague and incomplete state of self-concept theory, over reliance on conventional assumptions about personal attributes and roles, inappropriate item selection for the target group, and reliance on self-report measures. Therefore, the conceptual and methodological issues in relation to self-concept research that have been identified with the general population are further compounded in the assessment of self-concepts in people with intellectual disabilities (Zetlin & Turner, 1988; Zetlin, Heriot & Turner, 1985). As a consequence, serious doubts must be raised about the results obtained from unidimensional instruments that are based on outdated theory.

At present, most studies have relied on unidimensional instruments such as the *Rosenberg Self-esteem Scale* (Rosenberg, 1965) or the *Coopersmith Self-Esteem Inventory* (1981) because they are short, easy to administer and have simple response formats. Hence, research examining the self-concept of people with mild intellectual disability has suffered from flaws similar to those in self-concept research in other areas. These include tests that have been researcher constructed with undemonstrated psychometric properties, unpiloted changes to test items, differing administration regimes and scoring formats. Adherences to the unidimensional model of self-concept and methodological problems have plagued this area of research. This has resulted in questioning the validity of such research results with adults with intellectual disabilities.

Methodology

Participants

All adults participating in this study had been identified by the Queensland Department of Social Security as having a mild or a mild-moderate intellectual disability. All of the participants had an IQ within the range of 56-75 for those with mild intellectual disability and within the range of 45-56 for those with mild-moderate intellectual disability. All participants had been individually administered tests of intelligence by a psychologist, and had impairments in adaptive functioning. These criteria were needed for placement in the institution and for the receipt of the disability pension. For this study, two groups of adults with intellectual disabilities were chosen from two institutions. One group were being prepared to move to community living (Movers) and the other group were staying at their residential service (Stayers).

Movers—Group 1. Group 1 consisted of 25 adults who all resided in a residential service established for people with intellectual disabilities. These residents ranged in age from 32 to 65 (with a mean age of 47.9 years and a *SD* 9.7 years). Eighteen were in the mild range of intellectual disability and seven were in the mild/moderate range of intellectual disability. There were four people with additional disabilities and eleven had a dual diagnosis (i.e. they had a diagnosis of intellectual impairment and a diagnosis of a psychiatric condition).

Stayers—Group 2. Group 2 was a comparison group of 27 residents with intellectual disabilities. These participants were living in a different residential facility and ranged in age from 18 to 55 years of age (with a mean age of 36.1 years and a *SD* of 8.1 years). Twenty-one of the participants were in the mild range of intellectual disability and six were in the mild/moderate range of intellectual disability. There were three participants with additional disabilities and 10 participants had a dual diagnosis (i.e., they had a diagnosis of intellectual impairment and a diagnosis of a psychiatric condition).

Measures

Multi-dimensional self-concept

The instrument chosen to assess multidimensional self-concept facets was the *Self Description Questionnaire-III* (SDQ-III) (Marsh, 1989b; Marsh & Craven, 1997). Each dimension was measured using 10-12 items. Participants respond using an 8-point Likert type scale. The subscales are Physical Appearance, Physical Ability, Honesty, Emotional Stability, Problem-solving, Global Self-concept, 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 (Dixon & Gow, 1994) with adults with intellectual disabilities. These included changing all items to positive wording, using a pictorial 5-point scale and reducing the number of items in each sub-scale by 3 as people with intellectual disability were fatigued by repetition and thought that they had answered questions incorrectly. 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* (SEI) (Adult Version) Short Form (Coopersmith, 1981) was used to assess global self-esteem. The Coopersmith (1981) SEI Short Form is a 25-question scale. Each question is answered with either a "like me" or "unlike me" response. This measure was designed to evaluate attitudes towards the self in social, academic, family and personal areas of experience (Coopersmith, 1981, p. 1). However, relatively little psychometric data are available for the Adult Form (Coopersmith, 1981). Coopersmith did not report any indications of high or low self-esteem but suggested that scores below 25 be considered low self-esteem, those above 75 be reported as high self-esteem.

The two groups were evaluated for differences on the range of outcome variables considered in this study. The results are presented in Table 1.

Results

Multidimensional Self-Concept and Global Self-Esteem Differences Between Groups

The descriptive results based upon the multidimensional self-concept measure (SDQ-III) at Time1 are presented in Table 1. For the Movers the Academic subscale mean was low ($M = 3.87$, $SD = 1.8$), the Opposite Sex scale was low ($M = 4.2$, $SD = 2.1$) and the Maths subscale was very low ($M = 1.26$, $SD = 0.69$). Conversely, the Honesty subscale mean ($M = 6.87$, $SD = 1.3$) and the Parent subscale mean were quite high ($M = 6.04$, $SD = 1.9$).

Table 1 also reveals that there were significant differences on some of the subscales between the two groups. There were differences on the SDQ-III Academic subscale and SDQ Maths subscale ($p < .01$) where the Stayers had significantly higher academic self-concept scores than the Movers, the SDQ Emotion and Physical Ability ($p < .05$)

where the Stayers had higher scores in relation to these variables, and the Honesty subscale ($p < .05$) where the Movers had significantly higher Honesty scores compared to scores for the Stayers. These differences may be accounted for by the previously mentioned difference in mean age between these two groups. The Academic and Maths subscales could be explained by changes in educational practices for people with mild intellectual disability given that younger people have been exposed to more appropriate educational programs in comparison to older people. Also, younger people have had less time to lose their academic skills. The difference between the Physical Ability subscales could relate to the fact that the participants in Stayers were younger and were all in employment.

The descriptive results of the Coopersmith Self-Esteem Inventory showed that participants with mild intellectual disability had low to average self-esteem compared to the normative groups on this measure. It was decided to use the original norming data whereby the higher the score, the higher the self-esteem. Coopersmith cited a score of 75 as being high self-esteem. Only five out of 52 participants in this study scored in the high self-esteem criterion as defined by Coopersmith. The means as reported for both groups of participants in this study were low but comparable to the participants in the Griffin et al. (1996) study who were not living independently. Also the results in Table 1 show that there were no differences between the Movers and Stayers at Time 1 on the Coopersmith measure.

Discussion

This study was the first to investigate the SDQ-111 with adults with mild intellectual disabilities. It was part of a much larger investigation into the impact of deinstitutionalisation on multidimensional self-concept facets and other variables including quality of life and adaptive behaviour. It used the SDQ-III to identify whether multidimensional instrumentation had greater explanatory power than the unidimensional global self-esteem measures. The SDQ-III showed some significant differences between 2 groups of participants but the Coopersmith SEI did not reveal any differences. The results of this research are encouraging although further research using the SDQ-III is needed with larger populations. The fact that not all of the subscales showed differences is similar to the findings of other studies. Often children and adults with different disabilities have been shown to score lower on self-concept scales only on those dimensions directly affected by their disability (Chapman, 1988; Grolnick & Ryan, 1990; Johnston, 2001).

The use of a multidimensional self-concept instrument to measure the self-concepts of people with mild intellectual disabilities is important. The SDQ-III measured self-concept from a multidimensional view of self which allowed comparisons within and between subjects with respect to different facets of development and competence. Newer developments in self-concept theory indicate that such specificity is needed when considering the impact of disability and deinstitutionalisation upon the development of self-concept. For example, Tracey (2002) found that only the academic self-concept of children with mild intellectual disabilities was affected by placement in different educational settings.

Previous research has demonstrated that global self-concept is not a useful construct (Marsh & Johnston, 1993). Global self-concept cannot reflect the diversity of multidimensional self-concept. Multidimensional self-concept is more useful in terms of different settings, behaviours, and interventions (Marsh & Johnston, 1993). However, Marsh and Johnston (1993) did not advocate the abandonment of measures of global self-concept, just that there needed to be more emphasis on multidimensional self-concept. The SDQ Global subscale reported, which is very similar to the Rosenberg self-esteem scale, resulted in similar results (i.e., no significant group time or interaction effects as for the Coopersmith SEI) offering further support for the need to focus on multidimensional facets of self-concept. Furthermore, the global self-esteem scale used in this study showed no significant results, confirming that the multidimensional self-concept was more informative. In addition, this theoretical conceptualisation of the structure and measurement of self-concept is more closely aligned to the newer developments in the field of self-concept research and also allows the use of multivariate, between subjects research designs that have been recommended in the recent deinstitutionalisation literature.

Conclusion

The successful use of an instrument that measures multidimensional self-concept for people with disabilities implies that this instrument be utilised to allow comparisons with non-disabled and other populations. It may also overcome the conflicting results that have been found for people with intellectual disabilities because of the continued use of unidimensional instruments in that field. It must be recognised though, that the instrument must be administered one to one, if reliable and valid responses are to be recorded.

About the Author

Dr. Roselyn M. Dixon is a lecturer in Special Education in the Faculty of Education at the University of Wollongong. She has published extensively in the areas social skills development and self-concept for adults and students with special needs and early intervention for young children with special needs. She is also, involved in research projects with underachieving and learning disabled gifted students. Another particular area of interest is the application of social psychological theoretical perspectives to students with special needs. She is also the Deputy Director of the Early Childhood program and Undergraduate Coordinator for Special Education in the Faculty

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Table 1: Tests for Pre-Existing Time1 Differences Between the Movers and Stayers on SDQ-III and Coopersmith Self-Esteem Inventory.

	Time1			
	Movers		Stayers	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SDQ-III				
Academic	3.36	1.70	5.4***	2.02
Emotion	4.28	1.88	5.33	1.75
General	5.88	1.66	5.60	1.53
Honesty	6.80	1.35	5.72	1.60
Maths	1.24	0.66	3.28***	2.79
Opposite Sex	4.24	2.02	3.74	2.26
Parents	5.92	1.89	5.23	2.04
Physical Ability	3.60	2.14	5.00*	2.38
Physical Appearance	5.24	1.51	5.81	2.02
Problem-solving	4.00	1.41	4.63	2.19
Religion	6.12	1.86	5.68	1.87
Same Sex	5.89	1.39	5.96	2.27
Verbal	4.04	1.81	3.62	2.59
SDQ-III Total	60.60	10.69	62.08	12.83
Coopersmith Self-Esteem Inventory	52.48	14.48	49.96	16.50

Significance determined by one-tailed t test * $p < .05$, ** $p < .01$, *** $p < .001$