JARID Journal of Applied Research in Intellectual Disabilities
bild Published for the British Institute of Learning Disabilities
Journal of Applied Research in Intellectual Disabilities 2010, **23**, 290–295

BRIEF REPORT

A Comparison of Quality of Life Outcomes for People with Intellectual Disabilities in Supported Employment, Day Services and Employment Enterprises

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Accepted for publication *28 September 2009*

Background Policy objectives for people with intellectual disabilities include day service modernization and the promotion of paid employment and quality of life. Quality of life is under represented as an outcome measure in vocational research. This research compares subjective and objective quality of life, and quality of work environment for adults with intellectual disabilities in supported employment, employment enterprises and day services with non-disabled workers in community employment.

Methods Comprehensive Quality of Life Scale, and Work Environment Scale were collected for people with intellectual disabilities: 17 supported employees; 10 employment enterprise workers; 10 day service attendees; and 17 non-disabled work colleagues of supported employees.

Results Supported employees reported higher objective quality of life than employment enterprise workers and day service attendees. Non-disabled co-workers reported higher objective quality of life and autonomy at work than the three groups of people with intellectual disabilities. Supported employees reported higher subjective quality of life than non-disabled co-workers.

Conclusions The findings support the utility of supported employment as a means to provide constructive occupation and enhanced quality of life to people with intellectual disabilities. However, closing the gap with respect to non-disabled co-workers on objective quality of life measures represents a challenge and will require improving the quality of job finding and workplace support and the training provided.

Keywords: employment, intellectual disabilities, quality of life, work environment

Introduction

Recent government policy in the UK has sought greater social inclusion and enhanced life opportunities for people with intellectual disabilities and has promoted community-based paid employment as one mechanism for achieving these goals (Prime Minister's Strategy Unit 2005, Chief Secretary to the Treasury 2003, Department for Education and Skills (DfES) 2004, Department of Health 2001, Department of Health 2009).

Supported employment (Wehman & Kregal 1985; Beyer 1995) is increasingly being mentioned in policies as a successful model for people with intellectual disabilities (e.g., Department of Health 2009) involving: real jobs; paid the going rate for the job; normal job security; vocational profiling; professional job finding; job analysis; job matching; placement plan; on-the-job training and follow-up (Beyer 1995). Moreover, supported employment performs better than more traditional occupational alternatives in relation to a number of work or quality of life outcomes, such as wages (Hill *et al.* 1987),

10.1111/j.1468-3148.2009.00534.x

cost:benefit (Beyer & Kilsby 1998) and social interaction (Chadsey & Beyer 2001; Shearn *et al.* 2000).

The employment rate of people with intellectual disabilities remains low at 10% (Department of Health 2009). Traditionally, day centres were the alternative (Department of Health 2001). Progress towards employment has been achieved in partnership with specialist supported employment agencies (Beyer *et al.* 2004). Otherwise, community-based day opportunity services, sheltered workshop, work training schemes and social enterprises have been created.

While policy favours community-based employment, alternative forms of provision may not only persist but also expand in the modernization of day centres (Beyer *et al.* 2004). Evidence-based policy-making should establish what models provide the best quality of life and allocation of resources should be based on this. Kober & Eggleton (2005) and Verdugo *et al.* (2006) have compared overall satisfaction with life using the Quality of Life Questionnaire (Schalock & Keith 1993) and Wringe (1999) has used the Comprehensive Quality of Life Scale (Cummins 1997a,b) and the Work Environment Scale (Moos 1981, 1994). The current study provides a replication of the approach used by Wringe (1999). It tested the following hypotheses: (a) supported employees with intellectual disabilities would score higher on objective and subjective quality of life, work environment, and community integration than similar adults with intellectual disabilities attending employment enterprises or day services, (b) non-disabled co-workers would score higher on objective quality of life, and work environment than people with intellectual disabilities, and, (c) supported employees would score higher on subjective quality of life than non-disabled co-workers.

Methods

Research design

A purposive sample of people with intellectual disabilities was drawn from: two supported employment agencies in South Wales ($n = 17$), two employment enterprises developed as part of day service modernization ($n = 10$), and from 2 day services, five from a traditional day centre and five from an outreach centre, together representing a range of activities widely available today ($n = 10$). A further group ($n = 17$) were non-disabled co-workers of the supported employment participants. Data were collected by interview, and a between-subjects group comparison design was used. The resultant raw data were ordinal and therefore non-parametric statistics were used in analysis.

Recruitment

Accessible information was provided through agencies and consent to take part was obtained from both people with learning disabilities and their family carers, as well as from non-disabled employees. The study received ethical approval though University procedures governing student research.

Measurement

The Adaptive Behavior Scale (Nihira *et al.* 1993) was used to describe the respondents. Quality of Life was measured using the adult (ComQol-A) (Cummins 1997a) or intellectual disability (ComQol-I) (Cummins 1997b) version of the Comprehensive Quality of Life Scale. This is a self-rated scale and includes a pre-test to determine the level at which people with intellectual disabilities can discriminate and a test of respondent acquiescence bias (Sigelman *et al.* 1982). No respondents failed this pre-test.

The ComQol-I consists of questions in each of seven domains: material well-being, health, productivity, intimacy, safety, place in society and emotional well-being. An objective and subjective set of scores are derived for each domain. Objective dimensions each consist of three questions each scored from 1–5. Subjective questions test how important each domain is to the person (score range: 1–5) and the level of satisfaction the respondent derives from each area, ranging from −4 to +4. The ComQol has test–retest reliability of 0.87 (objective) and 0.82 (subjective) scores, with Cronbach's Alpha of 0.14–0.64 for individual domain scores (Cummins 1997b).

The quality of the work environment was measured using the 'Real' form of the Work Environment Scale (WES) 3rd Ed (Moos 1994). The WES assesses participants' perception of the workplace using 10 domains across three dimensions: relationship; personal growth; system maintenance and change. Each domain is measured using nine statements to which respondents can answer 'true/false'. Items are combined to form the Work Stress and the Work Relationships Index. Test–retest reliabilities for the WES 10 dimensions ranged from 0.69 to 0.83, and internal consistency from 0.69 to 0.86 (Moos 1994).

Two student researchers collected questionnaire and scale data. Inter-rater agreement was collected on 10%

of cases. Percentage agreement was 97.1% (kappa = 0.98) (Cohen 1960) for ComQol Objective Scale, 100% (kappa = 1.0) for ComQol Subjective Scale and 92.5% (kappa = 0.89) for WES.

Results

Participants and settings

Table 1 shows the age, gender, ABS percentile ranks, hours working or attending of the sample groups. There were no statistically significant differences between groups for age ($F_{3,50} = 0.88$, $P = 0.46$), or ABS percentile ranks between the three groups of people with intellectual disabilities ($F_{2,34} = 3.05$, $P = 0.06$). Gender varied significantly and may be a factor for better matching in further research.

Quality of life

Significant overall differences were found for both the objective ($\chi^2 = 26.3$, $P < 0.001$) and subjective ($\chi^2 = 8.8$, $P < 0.05$) QoL total scores (Table 2). Mean total objective QoL scores were highest among non-disabled co-workers (mean 78.2, 74% of maximum), and day service attendees were lowest (mean 58.1, 55% of maximum). Mean total subjective scores were highest among supported employees (mean 100.9, 72% of maximum) and day service attendees again lowest (mean 68.9, 49% of maximum). Kruskal–Wallis one-way analyses of variance showed significant differences between groups on individual objective domains for all but safety. Significant differences on individual subjective domains were found only for material wellbeing and safety.

Pair-wise differences between groups in total objective or subjective scores were explored using Mann–Whitney *U*-tests. Significant differences were found in total objective scores between supported employees and both employment enterprise workers ($U = 38.5$, $P < 0.05$) and day service attendees ($U = 25.0$, $P < 0.01$). In both cases, significant differences in health, productivity and emotional wellbeing contributed to the overall differences. Significant differences were found in total objective scores between non-disabled co-workers and supported employees ($U = 70.5$, $P < 0.01$), employment enterprise workers ($U = 14.0$, $P < 0.001$) and day service attendees ($U = 6.0$, $P < 0.001$). Significant differences in material wellbeing, productivity and place in the community contributed to the overall difference with supported employees. Significant differences in material wellbeing, health, productivity and intimacy contributed to the overall difference with employment enterprise workers. Significant differences in health, productivity, intimacy and place in the community contributed to the overall difference with day service attendees. The difference between employment enterprises workers and day service attendees was not significant.

The only significant difference found for total subjective scores was between supported employees and non-disabled co-workers ($U = 57.0$, $P < 0.01$). Significant differences in material wellbeing, productivity, safety, place in the community and emotional well-being contributed to the overall difference.

Work environment

Table 3 shows the mean scores on the Work Environment Scale for each of its 10 domains, along with the Work Stress Index and the Work Relationships Index. Generally, positive responses for all groups indicate a level of satisfaction with their situation, although Worker Stress Index scores suggest some stress for all groups. A Kruskal–Wallis one-way analysis of variance confirmed that there were significant differences between groups on autonomy ($\chi^2 = 12.5$, $P < 0.01$) and clarity ($\chi^2 = 7.9$, $P < 0.05$). There were no significant

Table 1 Descriptive data by participant group

Measure	*Supported employees*	*Employment enterprise workers*	*Day service attendees*	*Non-disabled coworkers*
Sample	17	10	10	17
Male	76%	40%	90%	41%
Mean age	34	39	42	38
Mean percentile ranks of ABS	85.0	77.8	74.1	–
Mean hours worked/attended per week	20.8	35.0	28.0	24.4

Table 2 Mean quality of life scores and standard deviations (SD) by participant group

	Participant group			
Measure	*Supported employees mean (SD)*	*Employment enterprise workers mean (SD)*	*Day service attendees mean (SD)*	*Non-disabled coworkers mean (SD)*
Objective				
Total objective*	71.5 (7.7)	64.4 (6.3)	58.1 (11.0)	78.2 (7.9)
Material well-being*	6.4 (1.5)	6.9 (3.4)	7.2 (2.1)	8.2 (1.9)
Health*	13.2 (1.8)	11.2 (2.4)	10.1 (2.3)	14.2 (0.8)
Productivity*	10.7 (1.3)	8.7 (2.5)	7.3 (2.9)	12.5 (1.7)
Intimacy*	10.5 (3.4)	9.9 (2.9)	8.0 (3.8)	12.2 (2.4)
Safety	13.1 (2.1)	11.8 (2.6)	11.6 (2.9)	12.7 (1.4)
Place in community*	6.4 (2.1)	6.9 (2.2)	5.2 (1.5)	8.4 (2.2)
Emotional well-being*	11.4 (2.7)	9.0 (1.8)	8.7 (3.5)	9.9 (2.5)
Subjective				
Total subjective*	100.9 (26.1)	84.1 (39.7)	68.9 (50.3)	73.4 (19.3)
Material well-being*	18.2 (4.0)	12.9 (12.8)	12.0 (15.2)	10.1 (2.8)
Health	8.9 (14.1)	10.2 (9.3)	14.3 (12.6)	11.0 (5.0)
Productivity	12.7 (10.5)	10.3 (12.3)	14.6 (7.0)	7.9 (6.0)
Intimacy	16.7 (5.7)	12.8 (12.8)	1.1 (17.8)	14.5 (4.4)
Safety*	16.8 (5.6)	12.9 (13.2)	13.0 (11.2)	10.8 (2.7)
Place in community	11.7 (10.4)	12.0 (9.4)	5.8 (15.1)	7.7 (5.3)
Emotional well-being	15.9 (6.0)	13.1 (9.3)	8.3 (16.3)	11.5 (4.6)

*Significant difference across groups using Kruskal–Wallis test at $P < 0.05$.

differences between groups on the composite indices of Work Stress and Work Relationships.

Pair-wise differences between groups in autonomy and clarity were explored using Mann–Whitney *U*-tests. Significant differences were found in autonomy between non-disabled co-workers and supported employees ($U = 59.5$, $P < 0.01$), employment enterprise workers ($U = 30.5$, $P < 0.01$) and day service attendees ($U = 39.0$,

Table 3 Mean scores and standard deviations (SD) for the work environment scale by participant group

	Participant group			
Work Environment scale	*Supported employees mean (SD)*	*Employment enterprise workers mean (SD)*	*Day service attendees mean (SD)*	*Non-disabled coworkers mean (SD)*
Involvement	5.9 (1.5)	5.8 (1.4)	5.7 (2.2)	6.1 (2.2)
Co-worker cohesion	6.2 (1.6)	5.7 (1.1)	5.8 (1.2)	6.8 (1.8)
Supervisor support	5.8 (1.3)	5.0 (1.8)	6.4 (1.8)	5.3 (2.1)
Autonomy*	4.3 (2.0)	4.2 (1.8)	4.8 (1.6)	6.4 (1.7)
Task orientation	6.9 (1.5)	5.6 (1.2)	5.5 (1.8)	6.8 (1.7)
Work pressure	4.9 (1.9)	4.7 (2.5)	3.2 (1.6)	4.2 (2.4)
Clarity*	6.9 (1.5)	5.9 (1.5)	5.3 (1.2)	6.7 (1.7)
Managerial control	6.3 (1.9)	6.5 (2.1)	5.8 (1.4)	6.4 (0.9)
Innovation	3.3 (1.8)	3.0 (1.4)	3.7 (1.9)	4.7 (2.5)
Physical comfort	5.7 (1.5)	5.3 (2.6)	4.1 (2.2)	5.2 (1.9)
Work Stress Index	0.1 (3.3)	1.1 (4.8)	−1.1 (2.2)	−2.5 (3.6)
Work Relationship Index	17.9 (4.0)	16.5 (2.7)	17.9 (4.0)	18.2 (4.6)

*Significant difference across groups using Kruskal–Wallis test at $P < 0.05$.

$P < 0.05$). Significant differences were found in clarity between non-disabled co-workers and day service attendees ($U = 41.0$, $P < 0.05$) and between supported employees and day service attendees ($U = 36.5$, $P < 0.01$).

Discussion

The first hypothesis that supported employees would score higher than employment enterprise workers and day service attendees on objective and subjective quality of life, and work environment was partially confirmed. It can be accepted for objective but not subjective quality of life. It cannot generally be accepted for work environment, although supported employees had greater perceptions of job clarity than day service attendees. The second hypothesis that non-disabled co-workers would score higher than all other groups on objective quality of life, work environment and community involvement was generally accepted. Their objective QoL was superior. Advantages in terms of the Work Environment Scale were found for them in relation to autonomy. Their sense of job clarity was also greater than that of day service attendees. The final hypothesis proposed that people with intellectual disabilities in supported employment would have a more positive view of their lives than non-disabled co-workers. The subjective QoL findings are in line with this. While it has limitations due to its small scale, the study suggests that overall supported employment was the preferred service model. Supported employees reported better health, higher productivity and better emotional well-being than the people with intellectual disabilities in employment enterprises or day services. They appear to be particularly satisfied with their lives, despite reporting lower material wellbeing, lower productivity, and lower job autonomy than non-disabled co-workers. Compared with day service attendees, supported employees had greater clarity about their work activity and conformity to policies and procedures expected of them.

Non-disabled co-workers are more autonomous, self-sufficient and more able to make decisions at work, and this reinforces previous research suggesting people with intellectual disabilities have a different social experience of community employment than their non-disabled colleagues (Rusch *et al*. 1994; Kilsby & Beyer 1996). However, the fact that supported employees report higher satisfaction than co-workers in terms of material well-being, productivity, safety, place in the community and emotional well-being despite objective disadvantages may suggest that they may assess their satisfaction against different reference populations (supported employees against other people with intellectual disabilities unemployed) while non-disabled co-workers reference against workers generally.

The findings have implications for the broader social inclusion of people with intellectual disabilities. The gap between the three groups of people with intellectual disabilities studied and non-disabled co-workers on objective QoL measures represents a quality improvement agenda for employment agencies.

Research on the QoL impacts of different employment models need to be done with many more agencies and enterprises to provide better control of key variables across individuals. Gender may influence QoL and attitudes to work-life, as may the adaptive behaviour of participants. There appear to be more men served by employment services. As employment schemes seem to incorporate bias in the people they serve, larger studies are required to provide an adequate subject pool to achieve matched samples that can tease out the effect of employment intervention from those of adaptive behaviour, gender, residence, education and other aspects of personal history on QoL and work environment outcomes.

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