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ORIGINAL ARTICLE

**Implementation of active support in Victoria, Australia: An exploratory study**

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**Abstract**

*Background* Active support is an effective intervention to support engagement of residents with intellectual disability in group homes. This survey explored resident characteristics of the people supported by organisations implementing active support, the provision of active support, its procedures and systems, and resident engagement in meaningful activity and relationships.

*Method* Information was collected through questionnaires and direct observation of 33 group homes from 6 organisations in Victoria, Australia, with a 5–10 year history of implementing active support.

*Results* Residents with lower support needs were engaged with little staff contact or assistance. Use of active support systems and structures was mixed. Only one organisation consistently provided good active support.

*Conclusions* Administrative systems and structures are not sufficient to change staff interaction and thus resident experience. Shared supported accommodation services may represent an inefficient use of resources for more able residents, as staff resources are not maximised to support for resident engagement.

**Keywords:** *implementation, engagement, active support, management, supported accommodation*

Active support is a model of enabling people with severe or profound intellectual disability to engage in meaningful activity and relationships (Ashman, Ockendon, Beadle-Brown, & Mansell, 2010; Mansell & Beadle-Brown, 2012; Mansell, Beadle-Brown, Ashman, & Ockendon, 2005). It has been the subject of a number of recent evaluative and investigative studies (Stancliffe, Jones, & Mansell, 2008; Stancliffe, Jones, Mansell, & Lowe, 2008; Totsika, Toogood, & Hastings, 2008). These studies show active support to be an effective and practicable intervention. As such, its wider adoption by service agencies, particularly in Britain (Ashman & Beadle-Brown, 2006; Beadle-Brown, Hutchinson, & Whelton, 2008), Australia (Riches et al., 2011), and in Ireland and the United States (Larson et al., 2008), represents an extension of evidence-based practice (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996; Sheldon & Chilvers, 2000).

As new practices move from demonstration projects to wider dissemination, issues of program fidelity become important. For example, disseminators struggle to distinguish those features of the innovation that must be accurately replicated from those which can be adapted (Blakely et al., 1987). Beyond research and development projects, there is evidence of weak implementation of active support. Mansell, Hughes, and McGill (1994) describe an intervention to train staff supporting people with severe and profound intellectual disability in 20 houses. Classroom and whole-environment training was provided to staff, administrative issues such as recruitment practices, induction training, job description, and staff deployment were adjusted to promote the adoption of active support, and managers were trained to collect data on engagement by people with intellectual disability in meaningful activity. Trainers reported increased involvement by people with intellectual disability in a wider range of activities, with staff becoming more skilled at supporting people in the first group of houses. The observational data collected by the service itself also showed a rising trend in active engagement. However, independent observational evidence showed no change over a 15-

month period. Similar results were reported for seven houses provided by another agency (Mansell & Barrett, 1993; Moore & Mansell, 1998; Orłowska & Mansell, 1996). In both projects, lack of commitment of managers, competing demands for priority from administrative activities and lack of skilled leadership of front-line staff were identified as factors contributing to weak performance.

In another study, Bradshaw et al. (2004) found increases in engagement in three houses, but these increases were due to the two most able residents in two houses and the residents in the third house. In three comparison houses, engagement levels actually declined. As in the earlier studies, a lack of management commitment and leadership were identified as problems. Mansell, Elliott, Beadle-Brown, Ashman, and Macdonald (2002) compared two matched groups of people living in staffed housing which were part of an organisation implementing active support on a wide scale. One group lived in homes where staff did implement active support, resulting in increased engagement in meaningful activity over a 3-year period. The control group lived in homes where staff practice did not change and there was no improvement in engagement in meaningful activity.

Similar results have been found in Australian services. Stancliffe, Harman, Toogood, and McVilly (2007) found significant increases in engagement, on average, in five houses for 22 people. Lack of change in one of the houses appeared to be because active support was not implemented satisfactorily, and Stancliffe et al. suggests that this perhaps reflects a problem with management. Fyffe, McCubbery, and Reid (2008) looked at the implementation of active support in a similar group of services where active support training had been provided within the previous 6 months. They used accounts of staff, house supervisors, and senior managers in 11 services each supporting five residents but did not carry out observations. The main finding was that there was substantial variation across settings. The percentage of staff saying they had had active support training ranged from 25 to 67% ( $M = 46\%$ ). The

percentage of staff indicating that changes in staff practices had occurred following the training ranged from 12 to 78% ( $M = 47\%$ ). The percentage of staff demonstrating a good understanding of engagement ranged from 36 to 83% in each house ( $M = 65\%$ ). Between 30 and 78% of staff reported problems with implementation of active support (54% on average). Although these findings are based on staff reports, this research showed that implementation of active support is not necessarily straightforward and trouble-free.

The current paper presents a subset of data from a large longitudinal study of practice leadership and the implementation of active support in group homes for people with severe or profound intellectual disability in Victoria, Australia. Six organisations participated, each of which had adopted active support at some point in the previous 10 years, identified active support as part of its system of supporting people with intellectual disability, and had used a variety of training resources to support its implementation. This study focused on three questions. First, what were the characteristics of group home residents in these organisations where active support had been adopted? Were these characteristics comparable with those from other studies? Second, to what extent were active support procedures and systems used by staff to organise their work? Finally, to what extent did staff actually provide active support to the residents they served, as measured by direct observation, and what was the effect on resident engagement in meaningful activity and relationships?

## **Method**

The study was a survey of six of the leading organisations (one government and five nongovernment) providing group home services for people with intellectual disability in Victoria, Australia. The survey primarily involved observations of quality of life and quality of support but also included surveying the needs, skills, and participation of people supported and the experiences of staff and managers.

*Participants and settings*

Organisations (O1 to O6) volunteered to participate in the study and identified group homes to take part. Criteria for inclusion were that residents were people with intellectual disability and at least one resident displayed some challenging behaviour. There were 34 group homes (6 houses in O1, 9 in O2, 3 in O3, 4 in O4, 6 in O5, 6 in O6), which catered for between two and six people with intellectual disability ( $M = 4.8$ ). The average established staff ratio was 1.25 full-time equivalent to one resident (1.25:1; range: 0.44 to 3.42). All residents supported by the identified group homes were invited to take part by the organisation and proxy consent was obtained for a total of 151 residents. The direct support staff, house supervisors, and senior managers associated with each house also consented to participate.

*Measurement*

Measures were selected to ensure comparability with previous studies of active support and to focus on (a) resident characteristics, (b) systems for organising care associated with active support, (c) observed provision of active support, and (d) outcomes for people with intellectual disability receiving support. Some information was collected by questionnaire and some by direct observation during a visit to each group home.

*Characteristics of people with intellectual disability receiving support*

A measure of resident needs and characteristics was obtained by questionnaires sent in advance of the visit and completed by a keyworker or another member of staff who knew the individual well. They were then collected and checked for completeness by the researchers. These questionnaires included the short form of the Adaptive Behavior Scale (SABS) Part I (Hatton et al., 2001), the Quality of Social Impairment question from the Schedule of Handicaps, Behaviours and Skills (HBS; Wing & Gould, 1978), and the Aberrant Behavior Checklist (ABC; Aman, Burrow, & Wolford, 1995). There were additional questions on other

disabilities present. The reliability and validity of the ABS (from which the SABS was drawn), ABC, and the HBS have been studied and reported as acceptable by their authors. Internal consistency for this dataset on the Aberrant Behavior Checklist (complete scale) and the Short Adaptive Behavior Scale was high ( $\alpha = .96$  and  $.94$ , respectively). A full-scale score for Part I of the Adaptive Behavior Scale can be estimated from the Short Adaptive Behavior Scale using the formula provided in Hatton et al. (2001). This estimated full-scale score is what has been presented in this study in particular to allow comparison with other studies.

#### *Systems for organising care*

Information on systems for organising care associated with active support was collected using the Revised Residential Services Settings Questionnaire (RRSSQ; Welsh Centre for Learning Disabilities, Institute for Health Research, & Centre for the Economics of Mental Health, 2003). The RRSSQ includes ratings of processes and systems in place to support individual planning, assessment and treatment of needs, activity planning, support of residents in activities, and staff training, on a 4-point scale, where a score of 1 equates to no systems in place and a score of 4 equates to good systems in place that are regularly reviewed. This was completed by the house supervisor and separately by their manager for each group home.

Information on staffing was also collected. The total staff in post was calculated as the number of full-time-equivalent staff employed to support the residents in each home at the point of data collection, including where appropriate a share of a first-line manager post. The staff ratio was calculated as the number of residents per full-time-equivalent staff in post.

#### *Observed provision of active support*

The quality of staff support was measured using the Active Support Measure (ASM; Mansell & Elliott, 1996; Mansell, Elliott, & Beadle-Brown, 2005). This was completed for each resident observed during the visit at the end of the observational period. The observer took

detailed notes of everything that happened during the 2-hour observation and then used that information to complete the ASM. The measure included 15 items focusing on the opportunities for involvement and the skills with which staff provided and supported those opportunities. Each item was scored on a scale of 0 (poor, inconsistent support/performance) to 3 (good, consistent support/performance). The items were:

- Age-appropriateness of activities and materials
- “Real” rather than pretend or very simple activities
- Choice of activities
- Demands presented carefully
- Tasks appropriately analysed to facilitate service user involvement
- Sufficient staff contact for service users
- Graded assistance to ensure service user success
- Speech matches developmental level of service user
- Interpersonal warmth
- Differential reinforcement of adaptive behaviour
- Staff notice and respond to service user communication
- Staff manage serious challenging behaviour well
- Staff work as a coordinated team to support service users
- Teaching is embedded in everyday activities
- Written plans in routine use

The maximum possible score was 45 and for each person a percentage of the maximum score was calculated. This percentage score is reported as an average across organisations with the range. Percentage scores for each individual were also categorised into “good, consistent performance” (percentage score over 66.66%), “mixed performance” (a



score between 33.33 and 66.66%) and “weak inconsistent performance” (a score below 33.33%). As reported in Mansell and Beadle-Brown (2012, Chapter 3), using this categorisation of good versus mixed/weak active support reliably differentiated individuals and groups in terms of outcomes measures such as engagement.

*Outcomes for people with intellectual disability receiving support*

An observational measure of both service user engagement in meaningful activity and staff contact and assistance to service users (EMAC-R; Mansell & Beadle-Brown, 2005) was collected using momentary time sampling. Observations were carried out in each house usually over a 2-hour period between 1600 hours and 1800 hours in the lead up to the evening meal, since this is a period with many opportunities for participation in activity (Mansell & Beadle-Brown, 2011). A 1-minute interval was used and each service user present at the time of the observation was observed for 5 minutes in rotation. Observations were collected by a team of seven observers all trained by the second author. Seventy-six percent of observations were completed by one person. Observational categories included:

- (a) Three activity categories: (1) social (interacting with others—talking to, showing, sharing information, listening and paying attention to someone speaking or interacting with them); (2) non-social (any task or activity that was meaningful in that it promoted the person’s quality of life in some way, including leisure, household tasks, and work activities); and (3) unclear non-social activity (a special code designed to capture participation by people with profound and multiple disability where staff were providing hand-over-hand support to an individual to take part in an activity but where it was unclear whether the person was engaged, in that they were looking away at the time of observation rather than looking at their hands or the member of staff).

- (b) Two categories covering contact by staff: (1) assistance by staff to engage in a meaningful activity, and (2) other contact from staff. A third category covering contact from other service users. Contact to and from the observer was not counted.
- (c) Four categories for challenging behaviour: (1) aggression, (2) destructive behaviour, (3) self-injurious behaviour, and (4) other challenging behaviour (which was usually repetitive self-stimulatory behaviour).

None of the categories were mutually exclusive because people could be engaged in more than one behaviour at a time. However, the same behaviour could only be coded once. If the observers missed the observation for any reason, they coded “missed.” If none of the above occurred (i.e., no meaningful activity, no contact, and no challenging behaviour), then they recorded “none.” The observer did not follow people into bathrooms or observe the personal care of service users. They only followed people into their room if it was clear that the person was engaging in an activity there (e.g., cleaning). When a missed observation was recorded, the person was usually either in the bathroom, receiving personal care, asleep in their bedroom or momentarily out of the observer’s line of sight.

The total number of minutes observed was 4020 for 135 people. Twenty-two percent of observations were recorded as missed observations (ranging from 0 to 83% across individuals). People were observed for 22 minutes on average, ranging from 3 to 50 minutes. Only 10% of people were observed for less than 10 minutes after eliminating missed observations. Percentage of time spent in each activity was calculated to take account of missed observations. The observers also took detailed notes during the observation period, including noting the type of activities and the nature of the contact observed which was used to complete the ASM described earlier.

*Interobserver reliability*

Interobserver reliability was assessed for each of the observational behaviour codes of the EMAC-R. Reliability data was available for 1120 minutes across all the observers trained to collect data. Mean kappa value across the seven categories that were coded as happening at least once was .58 (range: .11–.82). Agreement was low for unclear non-social activity, which was only observed for 12 people and for eight of these it was recorded less than 10% of the time. If unclear non-social activity is excluded, the mean kappa was .68. The other category where reliability was lower was assistance, where kappa was .31. Again, very little assistance was observed: no assistance was observed for 72% of the sample and occurred 10% or less of the time for 91% of the sample (non-occurrence reliability was 95%). Kappa analysis was repeated for the 240 minutes completed by the two main observers. The researchers agreed 100% that no assistance and no unclear non-social activity occurred. Contact from other service users was recorded by either observer only three times. Across the five remaining categories mean kappa was .83 (range: .78–.92).

Percentage observer agreement across the 15 items of the active support measure was 60% on average (range: 29–98%,  $n = 24$ ). Kappa was on average .32; however, this reflected the high non-occurrence of active support. Percentage agreement was 68% when the ratings of the two main observers were compared (range: 0–100%,  $n = 8$ ).

*Analysis*

Descriptive statistics are presented for the whole sample and for each organisation. Differences between organisations were examined using Kruskal–Wallis nonparametric analysis of variance with Mann–Whitney tests used for post-hoc analysis. As the study was primarily exploratory, Bonferroni adjustments were not used, in order to reduce the risk of Type II errors. However, as the number of comparisons conducted was more than 20 (but less than 100),  $p < .01$  was used for significance of main effects. Significance of post-hoc tests are

reported at  $p < .05$ . All analysis was undertaken at the level of the individual service user rather than the house level.

### *Ethics*

The study received ethical approval from Human Research Ethics Committee of La Trobe University, Victoria, Australia.

### *Procedure*

Once consent had been gained, the user questionnaires and staff questionnaires were sent to each service with requests for managers to distribute as appropriate. The observers visited each service to conduct the observations using the EMAC-R measure, at the end of which the ASM was completed for each person. The observer collected completed user characteristics questionnaires when they visited the service. Where these had not been completed before the visit the observer provided envelopes for them to be returned directly to the research team.

## **Results**

### *Resident characteristics*

Table 1 summarises the characteristics of residents and shows that there were statistically significant differences between the organisations. Post-hoc tests (using the  $p < .01$  criterion) showed that residents served by O2 were regarded as having more severe disability (as indicated by lower scores on Part I of the SABS) than those served by O3, O5, and O6; in addition, those served by O1 were regarded as having more severe disability than those served by O5. Residents served by O1, O2, and O6 had significantly more severe challenging behaviour (higher scores on the ABC) than those served by O3 and O5. Residents served by O1 and O6 were significantly younger than those served by O2 and O5. There was no significant difference between organisations in terms of the number of residents with physical

impairments; O3 appeared to have significantly fewer residents rated by staff as socially impaired. O1 and O3 appeared to have significantly fewer male residents.

<Please insert Table 1 about here>

Table 2 provides a detailed breakdown of the residents' characteristics and compares the adaptive behaviour of residents with that of a study conducted by Netten et al. (2010), which reported on a quasi-random sample of residential homes for people with intellectual disability in England. The Victorian participants in this study had significantly less severe disability, on average, than the population in Netten's study ( $z = 4.42, p < .001$ ) and included more people with high levels of adaptive behaviour (see Table 2;  $\chi^2 = 22.23, p < .01$ ).

<Please insert Table 2 about here>

#### *Use of active support systems and procedures*

Table 3 shows the ratings made by house supervisors and senior managers on the extent to which systems and procedures were in place, as measured by the RRSSQ. The ratings were mixed, with some respondents rating their performance in some areas as relatively poor and others as much stronger. Taking the median scores across ratings for each organisation, O4 house supervisors and senior managers rated themselves as performing near the top of the scale, with those in O2 and O3 next. In contrast, those in O6 rated themselves as performing poorly in terms of active support systems and structures.

<Please insert Table 3 about here>

Comparing individual ratings across organisations, there were differences at  $p < .01$  for ratings of activity planning by house supervisors, and for ratings of support for activity and training by senior managers (see Table 3). Post-hoc tests at  $p < .05$  showed a similar pattern for the individual ratings as overall, with O4 services assessed as the highest

performing on all three ratings where there was a significant difference, followed by O2 and O3. There were weak correlations between ratings by house supervisors and senior managers—only the correlation for rating of training and staff support was statistically significant ( $r_s = 0.61, p = .013, n = 16$ ).

*Observation of active support and engagement in meaningful activity and relationships*

Table 4 shows the quality of support provided by staff, as measured using direct observation. Only one organisation—O3—provided good active support (i.e., ASM score above 66%) on average and only this organisation provided good active support consistently across all residents. Observed levels of assistance were rather low compared with previous studies, but with a wide range, possibly reflecting the number of residents with relatively high adaptive behaviour scores. The general pattern was that O3 provided slightly more assistance and had fewer people receiving no assistance than the other organisations, some of which were not observed to provide any assistance to the large majority of residents.

<Please insert Table 4 about here>

Although low levels of assistance may have reflected the adaptive behaviour of residents, it is more surprising to find very low levels of contact from staff to residents, many of whom were verbal and relatively capable. Again, O3 presented a different pattern, with staff contact observed for just over a quarter of the time and only 15% of residents not receiving any contact from staff. The other organisations provided contact for each resident of between 4 and 6 minutes in every hour, with between about a quarter and a half not receiving any contact at all.

Table 5 shows the level of engagement in meaningful activity and relationships observed in the whole sample and for the group homes sampled in each organisation. Overall, levels of engagement were relatively high compared with previous studies, but this appears to

reflect adaptive behaviour rather than active support. Adaptive behaviour was significantly correlated with engagement ( $r_s = .35, p < .001$ ) and active support ( $r_s = .43, p < .001$ ), and negatively correlated with assistance ( $r_s = -.34, p < .001$ ).

<Please insert Table 5 about here>

Given that previous research found diminishing returns of active support at higher levels of adaptive behaviour, the question arises whether active support was being provided to people with more severe disability and with what effect. Table 6 shows staff support and engagement for the lower half of the ABS distribution ( $ABS < 151$ ). Only those people supported by O3 achieved good active support, higher levels of assistance and other contact and therefore higher levels of engagement.

<Please insert Table 6 about here>

## **Discussion**

The organisations taking part in this study were self-selected, as were the group homes they put forward to take part. It is therefore not possible to be confident that the results would generalise to other organisations. Nevertheless, this is the largest study yet to be carried out on the implementation of active support in Australia, and the organisations concerned provide a substantial proportion of group home services in Victoria, Australia.

Residents of the group homes in this study had significantly lower levels of intellectual disability than those in comparable English services (Beadle-Brown et al., 2008; Netten et al., 2010). A possible explanation for this finding is that Victorian group homes typically serve the first people to leave institutions. In England, this group has less severe disability than those who moved later (Mansell, Ashman, Macdonald, & Beadle-Brown, 2002; Mansell, Beadle-Brown, Whelton, Beckett, & Hutchinson, 2008). Many of the people who moved first to group homes transitioned to “supported living,” an initiative to provide

people with their own homes (Kinsella, 1993; Simons, 1998) and supported with a government funding scheme (Department of Social Security, 1998). The level of disability of people in group homes became greater as people with less disability moved to supported living and as the large institutions closed (Mansell, Ashman, et al., 2002).

Studies of “supported living” or similar semi-independent living arrangements for people with lower support needs have been carried out in Australia and the UK. Stancliffe (1997) found that residents of such schemes experienced more choice, particularly in settings with longer periods when no staff were present. In a later study comparing group homes with semi-independent living, Stancliffe and Keane (2000) found that most outcomes did not differ significantly by group. Where significant differences were evident, people living semi-independently experienced better outcomes: significantly less social dissatisfaction, more frequent and independent use of community facilities, more participation in domestic tasks, and greater empowerment. In that study, there were no personal outcomes with significantly better results for group home residents. The lower level of staffing provided to semi-independent residents was not associated with poorer outcomes. Expenditure was substantially higher for group home residents. In the UK, Felce et al. (2008) found no differences in the majority of lifestyle outcome measures in a comparison of group homes and semi-independent living. People living in fully staffed settings had better outcomes in money management and some health indicators. Semi-independent living residents had better outcomes for choice and community activities undertaken without staff support. Costs for semi-independent living were less than for group homes. Similar results were reported by Perry, Firth, Puppa, Wilson, and Felce (2012).

The data from the current study showed people with intellectual disability and with relatively high levels of adaptive behaviour living in staffed group homes where they were engaged in meaningful activity and relationships with very little contact or assistance from



staff. This may represent an inefficient use of resources, particularly given the evidence of benefits in terms of some aspects of quality of life as well as lower costs in semi-independent living. The policy implication is that, given an overall shortage of supported accommodation for people with intellectual disability in Australia (Productivity Commission, 2011), providing semi-independent living options for current group home residents could increase service quality and liberate resources for use elsewhere.

This study also offers some preliminary information about the fidelity with which active support is being implemented in Victoria. Although each organisation had adopted active support, implementation was variable. Some were not implementing either the support systems and structures, nor the staff behavioural changes, required in active support. Some were implementing the systems and structures but not the behavioural changes. Only one organisation was doing both. This study therefore provides cautionary evidence that having administrative systems and structures in place is not sufficient to guarantee changes in patterns of staff interaction and thus in the quality of life of the people who staff support. Organisations whose supervisors and managers rated themselves as having good planning processes and systems to support resident activity were not necessarily providing good active support. One limitation of this study is that it relied on managers to complete the RRSSQ who may have given a less objective and more socially desirable rating than would have been obtained from an independent observer. However, their self-ratings still provide insight into the lack of correspondence between what the systems and processes promise and what the practice delivers. This study also provides evidence that self-rated measures of process are not an adequate substitute for direct observation when monitoring service quality, and thereby contributes to the ongoing discussion of this issue among active support researchers (Clement & Bigby, 2010; Mansell & Beadle-Brown, 2012; Stancliffe, Jones, Mansell, & Lowe, 2008), as well as to the debate about the appropriate focus for those concerned with

the inspection or auditing of services (Beadle-Brown, Hutchinson, & Mansell, 2008; Netten et al., 2010).

Although the number of people with severe disability included in the study are too small to be confident of the true picture, the results suggest that most people with severe disability are often not receiving good active support and therefore not realising the level of engagement that they could potentially achieve. The results also suggest that there are marked differences between organisations as to whether they are delivering active support and supporting engagement in meaningful activity and relationships for this group of residents. Nevertheless, there is insufficient systematic data on implementation practices to account for these differences. Although most of the organisations were observed to be providing some good support to some people some of the time, only one organisation appeared to be consistently doing so at a high level.

This was an exploratory study and further research is required to confirm or modify the results. The next phase of this study involves extending observations to a larger number of people with severe or profound intellectual disability, helping the organisations involved to improve the amount and quality of active support they provide, and collecting data about the organisational strategies each adopts to achieve this. As active support becomes more widely adopted and promoted by organisations providing supported accommodation for people with intellectual disability, it will be important to evaluate their success by examining the lived experience of the people served through direct observation rather than relying on measures of administrative processes.

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*Conflict of interest:* None.

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**Table 1. Characteristics of participants for the whole sample and for each organisation**

	All organisations	O1	O2	O3	O4	O5	O6	<i>p</i>	
	<i>N/n</i>	147	20	40	12	14	29	32	
Age (years)	<i>M</i>	44.06	38.55	50.17	38.92	44.25	51.88	36.24	<i>H</i> 30.62, <i>p</i> < .001
	Range	22–74	27–59	34–74	23–54	26–63	30–72	22–60	
Percentage male		68%	40%	74%	42%	82%	88%	69%	$\chi^2$ 16.60, <i>p</i> = .005
Part I ABS score	<i>M</i>	154.44	142.34	118.25	174.99	167.32	182.17	170.02	<i>H</i> 23.66, <i>p</i> < .001
	Range	38.50–253.26	57.38–253.26	38.50–236.74	47.94–253.26	73.90–239.10	71.54–253.26	64.46–234.38	
Total score on the ABC	<i>M</i>	30.37	40.93	32.53	13.50	27.92	14.71	44.81	<i>H</i> 25.28, <i>p</i> < .001
	Range	0–104	0–93	0–104	0–47	0–64	0–84	4–103	
Percentage socially impaired		61%	65%	79%	22%	67%	50%	52%	<i>p</i> = .022
Percentage with a physical impairment		26%	35%	32%	42%	0%	17%	23%	<i>p</i> = .129
Percentage nonverbal		30%	35%	65%	18%	25%	12%	11%	$\chi^2$ 42.996, <i>p</i> < .001

**Table 2. Percentage of participants in each ABS group in the current study and in the recent UK sample**

	Percentage in each ABS group						181 plus	Mean ABS score (range)
	0–30	31–60	61–90	91–120	121–150	151–180		
Netten et al. (2010)	1	16	18	12	18	15	21	125 (24–279)
Current Victorian study	0	6	13	9	17	16	39	154 (39–253)

**Table 3. Mean (*M*), range, and median (*Mdn*) scores on the Revised Residential Service Settings Questionnaire for house supervisors and senior managers**

		All organisations		O1		O2		O3		O4		O5		O6	
<i>N/n</i> <i>services</i>		34		6		9		3		4		6		6	
		HS	SM	HS	SM	HS	SM	HS	SM	HS	SM	HS	SM	HS	SM
RRSSQ	<i>M</i>	3.04	3.1	2.2	2.67	3.5	3.13	3.33	3	4	3.75	3.67	3.5	2.4	2
Individual planning rating	Range	1–4	1–4	1–3	2–3	2–4	2–4	3–4	–	4–4	3–4	3–4	3–4	2–3	1–3
	<i>Mdn</i>	3	3	2	3	4	3	3	3	4	4	4	4	2	2
RRSSQ	<i>M</i>	2.27	1.88	2	1.5	2.83	1.8	1.67		3	3.25	2.67	1.67	1.33	1.33
Assessment and teaching rating	Range	1–4	1–4	1–3	1–2	2–4	1–4	1–3		3–3	3–4	2–3	1–2	1–2	1–2
	<i>Mdn</i>	2	2	2	2	3	1	1		3	3	3	2	1	1
RRSSQ Activity planning rating	<i>M</i>	2.35	2.96	2	2.33	3	3.33	2.67		4	4	2	2.67	1.4	2.5
	Range	1–4	1–4	2–2	1–3	2–4	2–4	2–3		4–4	4–4	2–2	2–3	1–2	2–3
	<i>Mdn</i>	2	3	2	3	3	4	3		4	4	2	3	1	3
RRSSQ Support for residents rating	<i>M</i>	2.74	2.74	2.4	2.17	3	3	3.33	4	3.5	4	2.33	2	2.25	1.5
	Range	2–4	1–4	2–4	2–3	2–4	2–4	2–4	4–4	3–4	4–4	2–3	2–2	2–3	1–2
	<i>Mdn</i>	2	2	2	2	3	3	4	4	4	4	2	2	2	2
RRSSQ Training rating	<i>M</i>	2.77	2.74	2.4	2	2.8	3.5	3.33	3	4	4	2	2	2.75	2
	Range	2–4	2–4	2–4	2–2	2–4	2–4	3–4	3–3	4–4	4–4	2–2	2–2	2–3	2–2
	<i>Mdn</i>	3	2	2	2	3	4	3	3	4	4	2	2	3	2
Across all five ratings	<i>M</i>	2.61	2.71	2.2	2.13	3.02	3.05	2.87	3.33	3.7	3.8	2.53	2.37	2	1.6
	Range	1.5–3.8	1.0–4.0	2.0–3.0	1.6–2.4	2.2–3.8	2.6–4.0	2.4–3.2	3.33–3.33	3.6–3.8	3.6–4.0	2.4–2.6	2.0–2.6	1.5–2.5	1.0–2.4
	<i>Mdn</i>	2	2	2	2	3	3	3	3	4	4	2	2	2	1

*Note.* HS = House supervisor; SM = Senior manager.

**Table 4. Quality of staff support**

		Whole sample	O1	O2	O3	O4	O5	O6	Kruskal–Wallis <i>H</i>	Post-hoc results (Mann–Whitney $p < .05$ )
	<i>N/n</i>	147	20	40	12	14	29	32		
Percentage ASM score	<i>M</i>	39	37	21	90	52	43	33	48.06 $p < .001$	O3 > O1 O5 > O2 O4 > O2 O6 > O2 O1 > O6 O3 > O2 O5 > O6 O3 > O4 O3 > O5 O3 > O6
	Range	0–98	16–71	0–44	72–98	8–93	8–72	2–74		
Residents with ASM more than 66%.	%	19%	10%	0%	100%	38%	17%	10%		
Time spent receiving assistance	<i>M</i>	3%	2%	5%	6%	2%	1%	2%	16.42 $p = .006$	O3 > O5 O2 > O5 O4 > O6 O1 > O5 O3 > O6 O2 > O6
	Range	0–34%	0–8%	0–34%	0–20%	0–13%	0–16%	0–24%		
Residents not receiving any assistance	%	72%	70%	59%	50%	62%	96%	86%		
Time spent receiving contact from staff	<i>M</i>	10%	7%	8%	26%	9%	10%	9%	11.03 $p = .051$	
	Range	0–74%	0–33%	0–34%	0–74%	0–24%	0–44%	0–33%		
Residents not receiving any contact	%	36%	34%	45%	15%	40%	27%	41%		

**Table 5. Engagement in meaningful activity and relationships for the whole sample**

		Whole sample	O1	O2	O3	O4	O5	O6	Kruskal–Wallis <i>H</i>	Post-hoc results (Mann–Whitney $p < .05$ )			
Engagement in meaningful activity and relationships (all residents)	<i>N</i>	147	20	40	12	14	29	32	16.244 $p = .006$	O3 > O2 O3 > O6	O4 > O2 O4 > O6	O5 > O2 O5 > O6	O1 > O2
	Mean	51%	59%	38%	63%	59%	66%	44%					
	Range	0–100%	4–100%	0–100%	0–100%	17–95%	0–100%	0–100%					

**Table 6. Engagement outcomes and support for the participants with ABS scores less than 151**

		Whole sample	O1	O2	O3	O4	O5	O6
Engagement in meaningful activity and relationships (residents with ABS < 151)	<i>N/n</i>	54	10	23	3	5	4	9
	<i>M</i>	39%	46%	29%	83%	45%	27%	42%
	Range	0–100%	4–97%	0–100%	70–95%	17–92%	0–72%	15–83%
Active Support Measure score	<i>M</i>	26%	38%	17%	83%	20%	22%	20%
	Range	0–84%	16–67%	0–44%	79–85%	8–28%	18–33%	15–28%
Percentage assistance	<i>M</i>	4%	2%	5%	12%	4%	0%	2%
	Range	0–34%	0–8%	0–34%	5–18%	0–13%	0	0–17%
Percentage contact	<i>M</i>	7%	3%	7%	29%	5%	2%	9%
	Range	0–35%	0–13%	0–34%	19–35%	0–9%	0–6%	0–33%