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Increasing day service staff capacity to facilitate positive relationships with people with severe intellectual disability: Evaluation of a new intervention using multiple baseline design

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ABSTRACT

Background The social relationships model was developed to describe positive relationships between support staff and people with intellectual disability. We evaluated an educational intervention based on this model.

Method Eighteen staff supporting 5 adult service users with severe or profound intellectual disability from 3 day services received the intervention. Mixed methods were used. A multiple baseline design determined changes in relationship processes between staff and service users following intervention. Descriptive field notes and staff interviews provided qualitative data.

Results Positive changes in relationship processes were found, but the results were variable. Of note was a high effect for 1 service user, a minimal effect for 2, and no effect for 2 service users. Field notes revealed contributors to variable results, and interview data highlighted changes not captured by quantitative measures.

Conclusions An educational intervention based on the social relationship model shows promise as a means to enhance staff relationships with people with intellectual disability.

KEYWORDS

severe intellectual disability; relationships; day service; support staff; engagement

Introduction

Many people with severe and profound intellectual disability spend much of their lives in segregated services, such as day services and group homes, despite social inclusion policies found in many western societies (Commonwealth of Australia, 2008; Mabbett, 2005). Inclusion may appear a lofty ideal when considering the high and skilled support needs of people with severe intellectual disability for participation in, and decisions about, everyday activities (Australian Institute of Health & Welfare, 2003). Furthermore, they are reliant on small social networks, comprised largely of direct support staff, peers, and family members (Kennedy, Horner, & Newton, 1989; Robertson et al., 2001), for engagement and to enable social interactions.

In Victoria, Australia, support workers with little formal training are expected to expedite social inclusion for service users with severe intellectual disability with little understanding of what it entails, access to few resources, and limited guidance (Clement & Bigby, 2009, 2010; Johnson, Douglas, Bigby, & Iacono, 2012). Active support is one of the few effective evidence-based approaches to increasing engagement in meaningful activities of people

with severe disability, through an enabling relationship with staff (Mansell & Beadle-Brown, 2012). Use of active support takes advantage of all the opportunities for engagement available at home, in the community, in work, and in leisure, with staff providing just enough help to service the user to ensure their success. Despite evidence of its effectiveness, active support has proved difficult to embed in supported accommodation services (Beadle-Brown et al., 2016; Mansell, Beadle-Brown, & Bigby, 2013), and its use in day services has not been investigated. Implicit in the conceptualisation of active support and associated training is provision of communication supports and facilitation of social interaction (Mansell & Beadle-Brown, 2012), although this may not always be given specific focus during training.

Other training approaches have provided this focus on communication, but with varying degrees of success (e.g., Dobson, Upadhyaya, & Stanley, 2002; Meuris, Maes, & Zink, 2014). Dobson et al. (2002) provided feedback and coaching of videoed staff–client interactions and reported increased positive interactions that were maintained at 6 months follow-up. They attributed this success and maintenance of outcomes to an aspect of

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the intervention that assisted in building a collaborative partnership between staff and researchers. This research also indicates a potential need to shift attitudes to motivate staff to embrace the value of engaging in interactions, which may then lead them to experience greater reciprocity in relationships with the people they support and enhanced job satisfaction. Mahoney and Roberts (2009), for example, in exploring the role of disability support staff in engaging day program service users in meaningful activities, identified staff who valued reciprocal interactions as the means to get to know adults in their care and facilitate relationships with them. According to Johnson et al. (2012), understanding the contribution social reciprocity can make to social interactions may provide strategies to establish and sustain relationships. Establishing these relationships, in turn, has the potential to increase staff motivation to support the engagement of people with severe intellectual disability, and also to view themselves as having a valued and integral role in doing so.

In an attempt to develop a greater understanding of enabling relationships for people with severe intellectual disability, a model focusing on key processes in positive relationships was developed by Johnson et al. (2012). Using a grounded theory methodology, data were generated through in-depth interviews with paid workers and family members, and extensive observation of their interactions with adults with intellectual disability and limited communication. The relationship model developed comprises five core processes and sub-elements that underpin positive relationships:

- *Recognising the individual*, whereby individual attributes or qualities are recognised and valued.
- *Sharing the moment*, whereby social interactions that are immediate and enjoyed are evident in social network members and the person with intellectual disability hanging out and/or having fun together.
- *Connecting*, whereby the person with disability is made to feel secure as a result of experiencing trust and respect, and receiving personal care, and messages are adjusted to facilitate effective connection.
- *Feeling good*, whereby the relationship processes of recognising the individual, sharing the moment, and connecting result in happiness, satisfaction, and feeling special.
- *Sharing the message*, whereby information is conveyed to other social network members across contexts, by taking responsibility to encourage others to engage with the person with intellectual disability.

This model provided a framework for teaching staff to implement these processes, which we predicted would

result in the development and sustaining of positive relationships with people with severe intellectual disability.

The aim of this study was to translate the relationship model into an educational intervention to increase the capacity of direct support staff to understand, develop, and facilitate relationships with people with severe intellectual disability, both with themselves as staff and with others in the community. The research question was: Does an intervention based on the relationship model lead to change in the frequency of relationship processes between direct support staff and people with severe intellectual disability who are users of day services?

Methods

Design

Mixed methods were used to evaluate the educational intervention. Multiple baseline (MBL; experimental single-case design) across day services was used to determine the effect of the educational intervention on the relationship processes, the dependent variable (DV). Field notes provided descriptive information about interactions and relationship processes and the day service context in which they occurred. Interviews with staff conducted before and after the intervention provided their perspectives on relationship processes, and how they may have benefited from the intervention.

Ethical approval

Approval was obtained from the Human Ethics Research Committees of La Trobe University (13-011) and Scope (68/13), a nongovernment organisation. Informed consent was obtained from a next of kin for participants with intellectual disability, and directly from participant support workers.

Participants

Recruitment

Two nongovernment organisations offering day services, located in Australia, participated in the study. Criteria for inclusion of service users were having a severe or profound intellectual disability, and little or no speech, but demonstrating the intention to communicate and a recognised means of getting a message across (i.e., communicative intent). Potential participants were identified by senior staff in each organisation. Letters were sent to their next of kin via their organisation on behalf of the researchers seeking permission for inclusion in the study.

Criteria for inclusion of disability staff were supporting the participants on a daily basis and consenting to participate in the study.

Description

Five service users from across three day services (DSA, DSB, DSC) were recruited. As all service users had complex disability, data about their characteristics were collected through observation by the first author (a speech pathologist) and interviews with staff. They were aged from 24 to 52 years ($M = 40.68$); their overall scores on the Vineland Adaptive Behavior Scales – II, Survey Edition (Sparrow, Balla, & Cicchetti, 2005) indicated profound disability ($SD > -2$), and receptive and expressive communication mean scores were 1.39 and 0.96 years, respectively. Results from the Triple C: Communication Checklist of Communication Competencies (Bloomberg, West, Johnson, & Iacono, 2009) indicated four service users could communicate at an advanced symbolic level (using under 50 symbols), and one did not demonstrate symbolic communication, but rather used informal means (e.g., vocalisations, body language, gestures). The short form of the Adaptive Behavior Scale Part I (Hatton et al., 2001) indicated all had severe intellectual disability, with scores of 34–98 ($M = 72.01$), and one service user had a profound intellectual disability, with a score of 34.

Staff participants were direct support workers ($n = 21$) and coordinators ($n = 3$). Six direct support workers either left the workplace or their responsibilities changed such that they no longer had frequent contact with the service users before the completion of the study. Details of staff characteristics were obtained through a written survey, the results of which are provided in Table 1 for staff who participated in all aspects of the study.

The 18 staff who participated throughout the study were distributed across the three day services (five, seven, and six, respectively). The majority of the staff participants (12) were over 40 years of age; 14 staff participants had at least 5 years of experience in their respective day service and 15 had a disability qualification. Only one day service (DSA) had no staff

participants from culturally and linguistically diverse backgrounds.

Setting

The study was conducted across the three day settings from which participants were recruited; they varied in size from 20 to 60 service users. One of the smaller settings provided support to people who were predominantly nonambulant. Staff-to-service user ratios were approximately 1:3, with variation throughout the day. Each of the day services followed a similar timetable of group activities, including at least one programmed activity in the day.

Two service users from DSA were part of a total group of six (i.e., four were not study participants), two in DSB as part of a group of five, and one in DSC also part of a group of five. Staff distribution across the services were five in DSA, seven in DSB, and six in DSC.

Educational intervention

The intervention was designed to increase the frequency of processes and behaviours represented in the relationship model. Delivery was across four 1.5-hour sessions over 2 weeks for one day service (DSA), or two 3-hour sessions over 1 week (DSB and DSC). A trainer's workbook guided the delivery of the training sessions based on principles of adult learning (Bradshaw & Goldbart, 2013). These principles included valuing each staff member's knowledge and experience of the people they support, allowing time for discussion, encouraging active listening from all staff members, and allowing each staff member to select his or her own goal. The sessions were organised around practical activities: (a) discussion of each staff member's and then service user's social networks, followed by comparison across the two to highlight to the staff members differences for the service users they supported; (b) information and discussion about each relationship process (recognising individuality, sharing the moment, connecting, and sharing the message); (c) completion of a worksheet detailing what each process looked like for each service user; and (d) completion of a written commitment indicating each staff member's intended actions in relation to the processes. A copy of a colourful schematic of the model was given to each staff member (see Appendix A).

Data collection

Positive engagement and relationships momentary time sampling (PEARmts)

An observational tool to record the DV was developed for the study. The PEARmts was based on the Engagement in Meaningful Activity and Relationships

Table 1. Staff member characteristics in day services.

	All day services ($n = 18$)	DSA ^a ($n = 5$)	DSB ($n = 7$)	DSC ($n = 6$)
Number of staff (%)	18 (100%)	5 (28%)	7 (39%)	6 (33%)
Age 21–30 years (%)	2 (11%)	0 (0%)	1 (14%)	1 (15%)
Age 31–40 years (%)	4 (22%)	2 (40%)	1 (14%)	1 (15%)
Age 41–50 years (%)	7 (39%)	1 (20%)	5 (71%)	1 (15%)
Over 50 years	5 (28%)	2 (40%)	0 (0%)	3 (50%)
CALD ^b	7 (39%)	0 (0%)	3 (43%)	4 (67%)
> 5 years' experience in current service	14 (78%)	5 (100%)	5 (71%)	4 (67%)
Qualification in disability	15 (89%)	4 (80%)	6 (86%)	5 (100%)

^aDS = day service. Each day service is differentiated by a letter, A, B, or C.

^bCALD = Cultural and linguistic diversity refers to staff who were born overseas from a nonEnglish speaking background.

(EMAC-R) used in active support research for observing service user engagement in meaningful activity and staff contact and assistance to service users (Mansell & Beadle-Brown, 2005). Additions to the EMAC-R were items related to modes of staff interaction and the DV, the relationship processes. As with the EMAC-R, the PEARmts was completed through momentary time sampling (at the end of each minute observed), providing an observational measure of engagement of service users, and staff interaction and relationships.

Using the EMAC-R, observations were completed from 9.00 to 11.00 am, a period chosen for the most consistent activity across services. Keeping to the same observation period across day services and sessions avoided introducing confounds that may be associated with varied times of day. Most observation occurred once a week unless the service was closed or participants with intellectual disability were absent. The frequency of each behaviour relating to the dependent variables observed during a 1-minute interval were recorded for an individual service user for a total of 5 minutes, rotated across participating service users present during the observation period. At each time point, the number of staff members and service users in the room/home was recorded. All observations were by one observer, who had been trained by the first author. The initial training involved discussing the PEARmts coding guide, observing and independently coding a 30-minute video of staff–client interaction, and a 1-hour joint coding observation in a group home. The first author discussed with the observer any coding queries on a weekly basis during data collection and reviewed data entry forms.

Coding of the PEARmts was according to three non-exclusive categories: (a) service user engagement; (b) staff contact, assistance, and interaction mode; and (c) relationship processes. If the observers missed the observation for any reason (i.e., service user left the room, was in the bathroom), they coded “missed.” If none of the above occurred (i.e., no engagement, no contact, assistance, interaction, challenging behaviour or relationship process), they recorded “none.”

Field notes. Detailed field notes were written during or immediately after the 2-hour observation. These were about relationship processes and staff–client interactions that occurred before or after, rather than on the minute of observation. Also noted were activities occurring, changes in staffing and visitors to the room, any timetable changes, and the general mood of staff and service users.

Staff interviews. Semistructured in-depth interviews were conducted with 18 participating staff before and after the intervention. The semistructured interviews allowed for the interviewer to pose follow-up questions or probe for more specificity in order to elicit full

responses. The preintervention interviews focused on staff members’ relationship with one of the service user participants, his or her current social network, and strategies the staff member might use to facilitate relationships with community members. Postintervention interviews focused on staff experience of the intervention and of supporting relationships for the service user they had chosen to focus on. All interviews were conducted in private settings and were of approximately 30-minute duration. They were audiotaped and transcribed. The preintervention interviews were conducted by the first author and the postintervention interviews by a research assistant. An interview guide was developed and discussed with the research assistant (see Appendix B).

Data analysis

PEARmts data were tallied within the three categories for each service user participant. Visual inspection of the MBL graph indicated the presence of effects for the relationship processes. Percentage of data exceeding the median (PEM) was calculated to determine effect sizes where variability was evident during baseline (Ma, 2006; Manolov & Solanas, 2009). The PEM is calculated by measuring the percentage of intervention phase data that exceeds the median data point of the baseline. The significance of the effect was determined according to the percentage of nonoverlapping data between baseline and intervention phases of the single-case intervention trial, as recommended by Scruggs and Mastropieri (1998; see Table 2).

A social constructivist approach (Charmaz, 2014) informed an inductive analysis of the four main topic areas covered by qualitative data collected through interviews and field notes: observed relationship processes in action, staff members’ perceptions of relationship processes, the training experience, and barriers to changing practice. Line-by-line open and then more focused coding was undertaken using a constant comparative method to develop, test, and refine categories in each of these topics (Charmaz, 2014). NVivo 9 software was used to support coding and manage the qualitative data. In addition, field notes taken during the observations were reviewed for factors such as context, activity, and interactions that might help to explain variability in the PEARmts data.

Table 2. Effect size ranges.

Score	Descriptor
90% +	Highly effective
70–89%	Moderately effective
50–69%	Minimally effective
< 50%	Ineffective

Source: Scruggs & Mastropieri (1998).

Reliability and trustworthiness

Interobserver reliability for the PEARmts was conducted for 330 minutes of data across the two researchers and assessed for each of the behaviour codes. Occurrence of behaviours was recorded by one of the two observers to have occurred from 1 to 9 times across eight relationship processes, and as such the reliability shown in Table 3 was low, but the nonoccurrence reliability was high (97–99%). Mean kappa value (aiming for kappa over 0.6) across the categories (shown in Table 3) was 0.73 (range: 0.66–1.00).

The coding that resulted from data analysis was discussed in detail among the first three authors. Where differences occurred, original transcripts were reviewed and coding discussed until consensus about meaning was reached. A summary of the descriptive qualitative findings was then presented to three representatives from the nongovernment agencies involved in the study as a form of member checking.

Results

Quantitative

Visual inspection of the data revealed marked variability in baseline and intervention data that required some modifications to the MBL design in order to avoid compromising each phase through prolonged data collection (i.e., continuing until stable baseline was achieved and/or notable improvements in the DV were evident in intervention). As a result, the research team decided to implement intervention in DSA (the first baseline) after a minimum of four sessions in baseline (conducted over 4 weeks), on the condition that the final data point preintervention was not higher than the previous data point. This condition was met for all three baselines.

In total, across the five services users, 2560 minutes of baseline observations were conducted, and 1980 postintervention. Nine percent of baseline observations (range: 5–12% across individuals), and 12% postintervention (range: 8–17%) were recorded as missed. People were observed an average of 461 minutes during baseline

(range: 218–723 minutes) and 347 minutes during the postintervention phase (range: 165–488 minutes). Percentage of time spent in each activity was calculated taking account of missed observations.

Figure 1 provides the DV data across the MBL according to percentage of time staff spent engaging with each service user in any of the relationship processes. Inspection of Figure 1 indicates great variability for most participants across all phases, although there were exceptions. For example, the baseline for Guy¹ (DSA) was stable. Despite the variability, intervention effects were discernible, especially for DSC service user Alan. The PEM results are presented in Table 4 and indicate the intervention to be highly effective for total relationship processes for one day service participant, Alan, minimal for two participants, and ineffective for two.

The relationship processes that occurred prior to and postintervention were further explored for DSC service user, Alan, for whom the intervention was shown to be highly effective. As Figure 2 shows, the processes of connecting and sharing the moment both increased postintervention. The percentage of total relationship processes increased from 3.9% at baseline to 5.2% postintervention (see Table 5). Similarly, the mean percentage of all service user engagement increased from 13% at baseline to 15.3% at postintervention (Table 5), translating to an increase in service user engagement of 1.4 minutes per hour.

Qualitative

Analysis of the interview transcripts provided insights into staff perceptions about the training and changes to their practice in terms of the relationship processes. Observational evidence for some of these perceived changes was found in field notes and attributed to the day service with the date of occurrence. Direct quotes from staff participants were referred to by a six-digit code to ensure anonymity.

Sharing the moment

Many staff said they had found ways to share the moment, by consciously increasing their social interaction with service users. Some expressed a sense of

Table 3. Interobserver reliability across relationship categories.

Category	Occurrences	Kappa	Total reliability ^a % agreement	Occurrence reliability % agreement	Nonoccurrence reliability % agreement
Individuality	2	-0.005	98.97%	0.00%	98.97%
Shares the moment	2	0.665	99.66%	50.00%	99.66%
Comedic fun	1	1.000	100.00%	100.00%	100.00%
Hanging out	2	0.497	99.31%	33.33%	99.31%
Connects	9	0.486	97.25%	33.33%	97.21%
Adjusts the message	8	0.415	97.25%	27.27%	97.22%
Shares the message	2	0.000	99.31%	0.00%	99.31%
Spreads the news	2	-0.005	98.97%	0.00%	98.97%

^aTotal agreements divided by total observations.

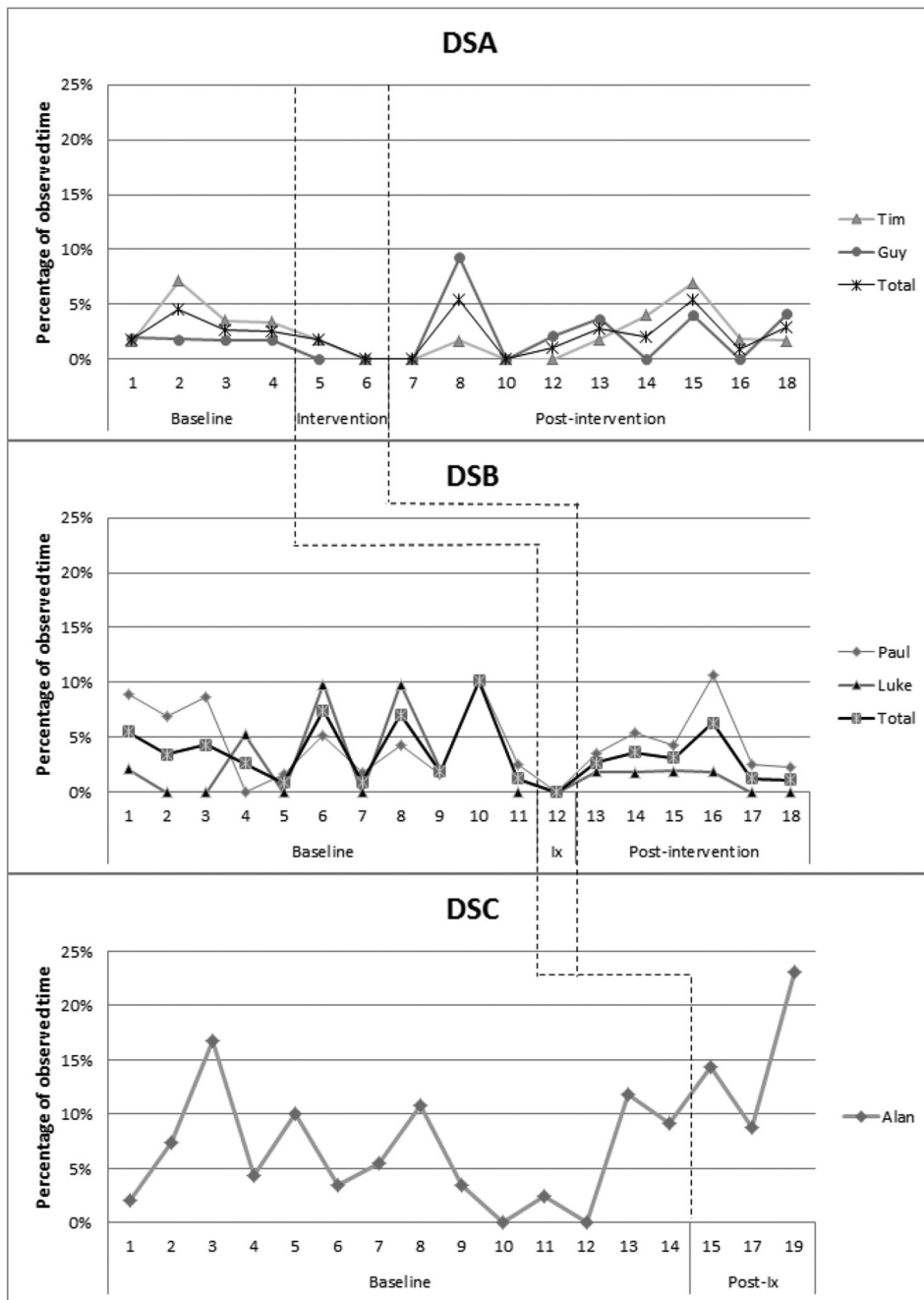


Figure 1. Multiple baseline (MBL) for total relationship processes across day services. The numbers on the x-axis indicate the weeks in which data collection sessions occurred. Ix = intervention; for DSC, Ix occurred between data collection sessions in weeks 14 and 15.

sadness at how, prior to the training, they had been unaware of the paucity of the social relationships experienced by the service user on whom they had chosen to focus. A frequent reflection was that the training had spurred them on to increase the time they spent with this person; for example, “I hadn’t been speaking to him and giving him options that I’m seeing now” (DSB: 10103).

Different opportunities and ways of having fun with service users resonated with staff, demonstrated mutual reciprocity, and increased their work satisfaction. For

example, one staff member discussed how she tried a suggestion from the training and said,

Table 4. PEM scores for total relationship processes across day services day service settings.

Participants	PEM	Effect
Guy (DSA ^a)	55.6	Minimal
Tim (DSA)	22.2	–
Luke (DSB)	66.7	Minimal
Paul (DSB)	33.3	–
Alan (DSC)	100	High

Note. PEM = percentage of data exceeding the median.
^aDS = day service. Each day service is differentiated by a letter, A, B, or C.

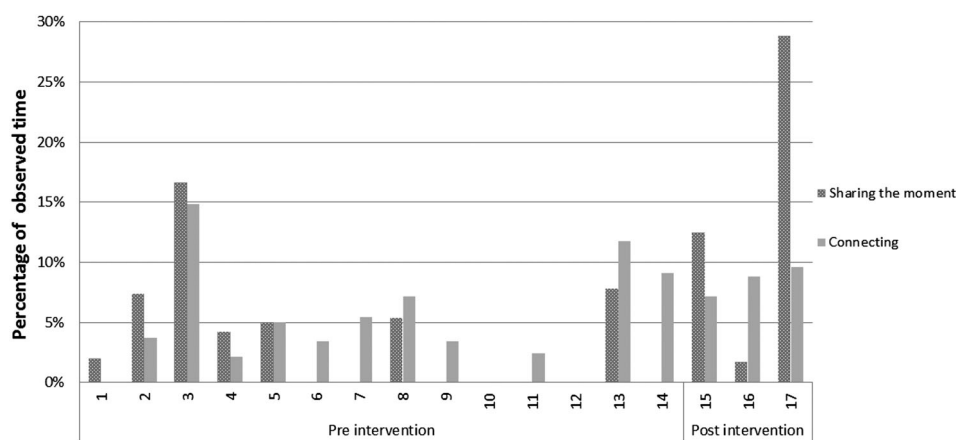


Figure 2. Staff relationship processes for service user Alan.

just a lot of sort of hanging out and trying to mimic ... and he went to do something and he just checked to see if I was doing it ... great, cause normally he wouldn't sort of seek that out with me. (DSC: 20108)

Recognising individuality

Staff revisited their relationships and interactions with individual service users after the training. In comparison to before intervention, they noted that seeing and accepting individual differences made the person more interesting, thus they were more motivated to engage with the person around those differences. A field note entry showed that staff from DSC, for example, after discovering that Alan could count, were enthusiastic in providing opportunities to demonstrate this skill: “the staff member was counting bowls with Alan in the presence of another staff member and praised him. “Yeah, legend, now I’m not a liar, Alan! “The staff member appeared to be genuinely pleased, showing off Alan’s skills” (DSC: 061113).

Connecting

Staff reported they had respectful relationships before the training, but were now clearer about how to interact with service users as a result of the training. Staff

reported going back to service users’ documentation or looking for topics about which to communicate with them. In terms of adjusting the message, although only a few staff members talked about changes they had made, more use of augmented communication was evident in the field notes; for example,

The staff member sat with Guy talking about what they were doing and showing him the pictures of the activities for the day. She helped him update the visual timetable. He repeated some of the words after her: Monday, cooking. (DSA: 181113)

Sharing the message

Staff reported that they had made an effort to share the message through taking responsibility to increase interactions. One staff member talked about how prior to the training she had not thought about contacting the family, but did so after the training, noting

His sister has been doing the caring while he has been in respite, she’s been here nearly on a daily basis or ringing us the other day so what we’ve learnt off her has been fantastic, and she’s loved it. (DSB: 10103)

Overall, examples of changes in staff social interaction with positive effects on service users were remarked upon by staff and recorded in the field notes. For example, staff had found ways to include people with little speech, which in turn seemed to increase the likelihood of their initiating social interactions without prompts. One staff member commented, “He likes that he is the helper and I’ve found engaging him he will tend to come up more to me. Our conversations are about that engagement, around activities. I think we are building a relationship based around that” (DSA: 20103).

Staff also reported that increased interaction of some service users reduced unwanted behaviours and gave glimpses of a different person. In the following, a staff

Table 5. Frequency of service user engagement and total relationship processes across MBL phases.

Variable	MBL phase		
	Baseline	Intervention	Postintervention
Social interaction	2.1% (1–3%)	0.9% (0–2%)	3.5% (1–9%)
Activity	11.0 (0–24%)	7.3% (0–15%)	12.3 (1–21%)
Total percent engagement	13.1% (1–25%)	8.2% (0–16%)	15.8% (4–28%)
Minutes per hour engaged	7.79	4.83	9.19
Total relationship processes	3.9% (2–6%)	0.2% (0–1%)	5.2% (1–15%)

Note. MBL = multiple baseline.

member noted an increase in a service user's independent cooperation and said, "He was carrying the bowls and he was enjoying the attention ... of his own accord he just started packing up all the bowls that were laid out on the counter before" (DSA: 20106).

Training

Overall, staff evaluations of the training ranged from "ok" to "awesome." One staff member, for example, stated that it "opened my eyes to more the importance of being with the person as opposed to just taking care of their physical needs ... to involve their emotional and relationship needs and communication more than anything else" (DSB: 10105). The relationship model gave them a framework that helped them to implement different processes, with one staff member saying that the segmentation of the model into different processes could be used with other staff as an approach to problem-solving.

It was also suggested that the training might be most useful for new staff, with all participants reporting benefits. These benefits included staff having an opportunity to reflect on their practices with colleagues, thereby providing insights into their work and gaining an increased awareness of the complexity of their job role. This reflection led to some staff questioning their previous practices.

Obstacles to changing practice

It was evident that staff felt pressed for time in group programs, which they suggested resulted in staff giving priority to routine activities over attention to individual service users. The sentiment that "it's a busy role and a busy day" (DSA: 20104) was echoed across staff members. They often felt too busy, stressed, or needing to support too many service users to be able to focus on social interaction; for example, "It's really hard to focus on someone when you are just dealing with the day-to-day issues" (DSA: 20103). It seemed, then, they divided their work into either tasks or interaction with service users, rather than finding ways to combine the two.

The pressure of time was not necessarily felt constantly and at times may have stemmed from the quite chaotic and disorganised nature of services. This chaos is illustrated in the extract from the field notes that follow, which draws attention to the impact on staff and service users of unpredicted reduction in the number of staff on duty, change to programs, and the effect of working alongside casual staff who were unfamiliar with service users and had not been well inducted into the service by the organisation:

There were about seven staff members at the day service. One was going to be away for 3 weeks and another had a

family emergency. There were two electricians in the room producing loud bursts of noise repairing the gym equipment. This meant that regular programs had been cancelled. From 10.30 to 12.15 there were two staff running programs. One staff member took three service users out for a walk instead of using the equipment. The other staff member ran a cooking program for five service users, which was predominantly a one-on-one activity cutting up vegetables and then cooking them in the microwave. The number of service users varied from six to 10. For periods of time there were no staff members in the room. (DSA: 150713)

Staff suggested it was difficult to maintain a relationship with a service user without regular contact and that being moved between groups in a program, as often occurred when there were staff absences or resignations, interrupted the process of relationship building. They also talked about difficulties in gaining regular information about activities in which the service users were involved when in other environments, which could have been used as conversational topics, and, hence, the basis for social interaction. One support worker said, "unless the parents ring up we really don't know and the houses, we don't know" (DSB: 10108). From the field notes, a pattern was discernible such that staff in the services in which the educational intervention had not been shown to be effective were more emphatic about the impact of barriers, such as low levels of staffing, than were those from services with a positive quantitative effect.

Staff also suggested that the observations had not been well timed to capture social interaction between staff and service users, and more would have been observed out in the community. Many staff were wary of being observed, which stifled the nature of their interactions with service users; for example, one said, "I had two or three staff feeling pressured and thinking they were being watched and judged" (DSA: 20104).

Discussion

In light of the limited published research into how to support relationships between staff and people with severe intellectual disability and ultimately community inclusion, the results from this research look promising. The strength of experimental single-case designs, as used here, is in demonstrating treatment/intervention effects at the level of the individual (Barlow, Hayes, & Nelson, 1984), thereby indicating the potential relevance of findings to practices in supporting people with severe intellectual disability across settings. This strength was evident in our finding that following intervention discernible effects were shown for three of five participating services users. In essence then, the testing of the

intervention through the MBL single-case design provided an opportunity to develop and trial a quantitative measure of relationship processes and an educational intervention. The outcomes for three service users as well as the qualitative data are indicative of benefits of the intervention, while pointing to areas in need of strengthening in terms of both the intervention and future research.

The modest nature of the results cannot be overlooked, however. The quantitative data from baseline sessions demonstrated the low base from which staff began in terms of processes that enhance relationships with service users with severe disability (Johnson et al., 2012), and the postintervention data demonstrated difficulties in increasing their use. It is likely that lack of relationship processes goes some way to explaining the very high rates of service user disengagement in terms of social interactions or activities; in fact, levels of engagement were lower than has been reported previously for group homes in Victoria (Mansell et al., 2013) using similar measures. There is little comparable data on engagement in meaningful activities or relationships for day programs, or relationship processes between staff and day service users. Mahoney and Roberts (2009) provide an exception in demonstrating that warm reciprocal interactions do occur between staff and service users. Furthermore, qualitative data from the interviews and the field notes provided support for the face validity of the relationship model, while the training resonated well with staff members' own experiences. The model provided staff with a framework for thinking about their relationships with service users and they reported use of at least four of the five specific processes. They reported increased satisfaction and that service users became more engaged in their social world. The current study, therefore, provides a starting point for further systematic investigation into quality relationships and meaningful interactions between staff and day service users, as well as people with severe and profound intellectual disability more generally.

The restricted range and relatively infrequent use of relationship processes observed in the current study may have reflected the lack of diversity in environments and social network members included as participants. The relationship processes and model applied in this study had emerged from data obtained across varied environments (family and group homes, day services, and in the community) and with a range of social network members (family, support staff, peers; Johnson et al., 2012). The process of sharing the message, in particular, may have been difficult to capture during the observations as, in our previous research, these were most frequent in handover between staff or when staff

related stories about an individual (Johnson et al., 2012). Sharing the message was recorded in the field notes occasionally but usually reported in interviews. Staff were largely unaware of what service users did outside of the day program, and were not actively encouraged to find out. In terms of recognising the individual, during training, staff struggled to describe an individual's character and attributes, despite their organisations' stated person-centred ethos. This difficulty might be an artefact of the focus of day services on group programs rather than individual support. On the other hand, sharing the moment and connecting were the most evident of the relationship processes in our data. Sharing the moment was characterised by banter in both settings, but hanging out also occurred, as had been evident in the study by Johnson et al. (2012). Staff reported that the training gave them permission to feel comfortable spending time together engaging in joint activities, despite many noting that time pressures prevented this. Connecting was observed through respectful and warm interchanges, and taking the time to communicate more effectively, again reflecting previous findings from a more diverse group of social network members (Johnson et al., 2012). These processes require simply an awareness and commitment to improving relationships. It may also be that the staff can see the immediate impact of an interaction, whereas recounting stories or sharing information may be perceived to have less observable outcomes for service users.

Although the study did demonstrate the viability of training based on the relationship model, the application of early findings about the positive impact of practice leadership on staff practice in supported accommodation services to day services (Beadle-Brown, Bigby, & Bould, 2015) might increase its overall effectiveness. This might take the form of more direct links between relationship training and elements of practice leadership, such as coaching, modelling individual supervision, and team meetings.

The research was undertaken in organisations that were keen to develop positive relationship experiences for service users. Nonetheless, it was evident that some staff struggled to see how these processes could be integrated into their day-to-day practice. They saw relationships with service users as separate from doing tasks, almost as a bonus for service users, and an activity that staff did when they had time free from meeting personal care needs, or which they did at weekends. In order to bring about change such that staff see their role in facilitating relationships, it is likely that job descriptions, role clarity, and expectations may need to be revisited and revised by the organisation. Given that social inclusion is a goal for people with severe and profound intellectual

disability, and these people predominantly live in group homes and attend day services, promoting positive relationships and community inclusion needs to be tackled urgently and directly.

Limitations and future research directions

The study relied on observations of staff interactions, but these occurred only during group programs. Different patterns may have been evident during individual interactions with service users or when in the community. There are several possible reasons for the limited change detected in the quantitative data. Importantly, it was found that the sharing the message relationship process was not captured by momentary time sampling observations focused on service users, most likely because the process typically occurs during staff-to-staff interaction (Johnson et al., 2012). Thus, using the PEARmts was unlikely to capture increased use of this process. There is evidence from the qualitative data, however, that staff were beginning to take this aspect of their relationships with service users more seriously. Hence, supplementary data collection strategies, such as structured interviews or questionnaires requiring specific and situated examples (i.e., what, where, and when), may be required to provide evidence of all processes, including those occurring in situations when direct observation is inappropriate (e.g., provision of personal care).

The educational training provided to the staff was deliberately brief (6 hours in total), enabling the worth of further research that could build on this core work of presenting the model and each process to day services staff to be demonstrated. The modest benefits indicate that training made more extensive and connected to an overarching practice framework of these services or to other staff training programs appears warranted. Furthermore, our results suggest the importance of drawing direct links with everyday staff practices in order to demonstrate more positive relationships between service users and staff. In addition, ensuring fidelity of the education program to be sure that all elements of the intervention have been similarly included for all participants, which was not done in the current study, may optimise the potential for changes in staff practice.

Conclusion

The results of this study indicate that an educational intervention developed from a grounded theory model of positive relationship processes could be effective in increasing the frequency of relationships between disability staff and people with severe intellectual disability. The relationship model was found to be workable and

readily understood by staff. Data from observations and field notes demonstrated staff changed their practice to reflect more instances of each of four relationship processes with discernible but varied degree of improvement for three of five service users. Of the relationship processes, sharing the moment and connecting appeared most amenable to improvement or being captured using momentary time sampling in a limited context. The challenge is to extend this research to enable a greater focus on day service user experiences of meaningful and positive relationships than has been evident in the research literature to date.

Note

1. All names have been changed to ensure anonymity.

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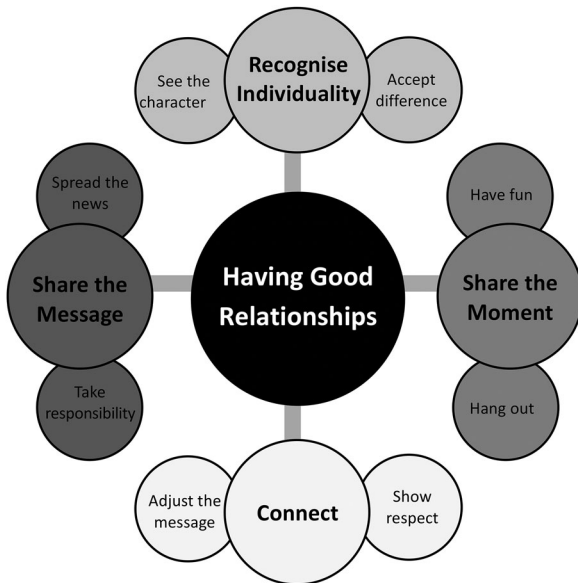
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Appendix A.



Schematic of positive relationship model.

Appendix B.

Pre- and Postinterview questions to staff members.

Preintervention interview questions

Could you tell me about your relationship with [name of focal person]?
 What do you do with him/her?
 Does the person have any positive relationships you know of? If so, can you tell me about these and how you know of them?

Can you think about anyone with whom positive relationships for [name of focal person] could be developed? If so how?

Postintervention interview questions

Could you tell me about your relationship with [name of focal person]?
 What do you do with him/her?
 What was your experience of the training?
 What was helpful/unhelpful? Any suggestion for changes? What do you remember of the model? What did you commit to do?
 Is there anything you do differently since the training (e.g., with the person you support/other staff). If so can you give me specific examples?
 Are there any opportunities to assist [name of focal person] to develop relationships and/or have more interactions? If yes, what are you planning/have started to do? If no, what are the barriers?
 Is there anything else you learned from the training or comments you want to make?