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Implementation of a Staff Management System to Increase Consumer Engagement in Group Homes

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IMPLEMENTATION OF A STAFF MANAGEMENT SYSTEM TO INCREASE CONSUMER ENGAGEMENT IN GROUP HOMES

by

Jeana L. Koerber

A dissertation submitted to the Graduate College in partial fulfillment of the requirements for the degree of Doctorate of Philosophy Psychology
Western Michigan University
December 2015

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IMPLEMENTATION OF A STAFF MANAGEMENT SYSTEM TO INCREASE CONSUMER ENGAGEMENT IN GROUP HOMES

Jeana L. Koerber, Ph.D.

Western Michigan University, 2015

A multi-component staff management system was implemented in three residential group homes for adults with disabilities to examine if it would increase consumer (resident) engagement in leisure activities. The design was a non-concurrent and concurrent multiple baseline design across homes. Participants included consumers who lived in the homes and the direct care staff (DCS) who worked with them: a total of 35 participants. Sessions were an hour in length and occurred twice a day, Monday through Friday. The study lasted approximately 17 weeks in each group home.

There were four phases: (phase A) baseline assessment of consumer engagement and affect, (phase A’) supervisor walk-arounds and continued assessment of consumer engagement and affect, (phase B) implementation of the staff management system with a consumer check-in and choice procedure as its foundation, and (phase C) addition of more individualized, immediate DCS feedback from their supervisors. Dependent variables included consumer engagement, consumer affect, and the number of different activities chosen by consumers. Treatment integrity data were collected to assess the fidelity of program implementation by DCS and supervisors.
The staff management system increased consumer engagement and positive affect in all three homes during phase B. In phase C, addition of supervisor feedback increased staff’s correct implementation of the procedures, but that was not accompanied by meaningful increases in consumer engagement. However, confounds in all three homes during phase C precluded conclusions about the effects of the supervisory feedback. Treatment integrity measures revealed that supervisor implementation was variable across homes.
ACKNOWLEDGMENTS

Many people assisted with the conception, implementation, and conclusion of this study. First, I would like to thank my advisor, Alyce Dickinson. Her willingness to oversee this project and accept me as a student will never be forgotten. I truly appreciate the opportunities she has given me to pursue my dream study. It may have taken longer than either of us predicted, but I’m truly honored to have an advisor who is willing to let me chose my path and support me along the way. I would also like to thank my committee members and former supervisors when I was a part of the PATS team: Jonathan Baker and Stephanie Peterson. Without the expertise I gained and the relationships I built during my time as a PATS therapist, I would not have been able to successfully complete this extensive study so smoothly. This project would not have been complete without the expertise of my final committee member, Jessica Frieder. I appreciate the patience and assistance she provided with this project.

This project would not have been possible without the help of a phenomenal team of research assistants. Thank you to Shelby Plichota, Jon Priehs, Josh Rzemien, Taylor Hurry, Ashley Kotsiris, Athena Lekas, Deanna McDonald, Izzy Branch, Jennifer Forcier, Ashley Jablonski, Allaina Sheltrown, JP Martinez (GA), Janelle Allen, Naomi Barajas, Ashley Bielawski, Jerrica Danoff, Kali Kuharevicz, Stephanie Tiedt, Jasmin Caverly, Tory Roti, Dave Nichol, MacKenzie Sullivan, Jesse Carrington, and Mindy Newhouse (GA). Also, thank you to Residential Opportunities, Inc. for allowing me to
conduct research in their homes and to all of the staff and consumers who participated in this study.

I would be remiss to leave out thanks to my former supervisor, Erick Marmolejo, who consistently provided me with flexibility to meet my school goals, and my current supervisor, Becky Lopez, for continuing to offer that flexibility. JP Martinez also deserves credit for not just helping me collect data, but for constantly encouraging me, reminding me of my goals and dreams when I temporarily forgot them, and for being my built in technology and emotional support system.

Finally, I would like to thank my parents for their endless love and support. They have always believed in my dreams and have assisted me in every way possible. I would not be the person I am today without them.

Jeana L. Koerber
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INTRODUCTION

The importance of providing activities for adults with disabilities who live in group environments has been recognized since the 1970s (Reid, Parsons, & Green, 1989). Cited benefits include increased quality of life as well as reduction of challenging behavior (Dillon & Carr, 2007; Sands & Kozleski, 1994; Sigafoos & Kerr, 1994). Moving from teaching environments into “freedom to choose” self-directed activities models, however, provides unique challenges for staff when interacting with the residents.

Sands and Kozleski (1994) found that adults with developmental disabilities reported lower levels of satisfaction in quality of life measures such as choice-making, independence, and the variety and frequency of leisure activities compared to a similar group of typically developing adults. When adults with disabilities engage in preferred activities, it increases the likelihood that they will have a higher quality of life on a day-to-day basis; however, it can be challenging for staff to identify and offer these activities.

One reason it may be challenging is that it is often difficult to determine if individuals with developmental disabilities are enjoying the activity. In 1996, Green and Reid conducted a study to determine if it was feasible to define and observe indices of happiness with individuals with profound disabilities. Using two validation procedures, they concluded that it was possible to observe and validate general indices of happiness and unhappiness. In the second experiment of the study, and in a follow-up study (Green, Gardner, & Reid, 1997), researchers implemented a “fun time program” to increase indices of happiness of individuals. After preference assessments were conducted, participants received access to preferred items in a systematic fashion. Increases in
indices of happiness were observed in both studies. A review of the literature of indices of happiness and unhappiness of individuals with developmental disabilities concluded that use of these indices can offer clinical benefit and increase quality of life by adding or subtracting activities from individuals’ lives based on these measures (Dillon & Carr, 2007).

Additionally, providing leisure activities that increase indices of happiness may also reduce challenging behavior. During a procedure in which two types of leisure materials were presented to individuals during 30-minute sessions, challenging behavior decreased and adaptive behavior (appropriate use of leisure materials) significantly increased (Sigafoos & Kerr, 1994). Shore, Iwata, DeLeon, Khang, and Smith (1997) demonstrated that self-injurious behavior greatly decreased or was eliminated for three individuals when preferred leisure items that competed with the self-injurious behavior were available. In other words, the three individuals engaged in the leisure activities rather than the self-injurious behavior. It should be noted that providing leisure materials alone may not reduce challenging behavior and may even increase it, depending on the function of behavior.

Knowing that leisure activities may increase the happiness of individuals with developmental disabilities and decrease problem behavior may not be sufficient to maintain the behavior of staff in residential homes offering and providing these activities. Repeatedly trying to engage consumers in activities they reject may strongly discourage staff. This could result in a decline in staff offering such activities (Reid & Parsons, 2002).
Staff who work in group homes with adults with disabilities (or consumers, as they will be referred to in this document) may also encounter many systematic, organizational factors that hinder interactions with consumers. Staff who take direct care staff (DCS) positions in these group homes are usually doing so out of economic need and typically have little to no professional preparation to work with the consumers (Reid & Parsons, 2006). Once hired, staff are normally given limited supervision, ambiguous job responsibilities, and often hear contradictory statements pertaining to their duties due to the many agencies involved in the consumers’ lives (Reid & Parsons, 2006). Staff are usually able to adhere to the requirements involving the daily needs of the consumers, such as personal care tasks, meal preparation, and community outings, because these activities are scheduled into the day. However, staff are generally given little guidance on how to engage and assist consumers during unstructured time periods; times when consumers often do not engage in meaningful activities on their own (Reid, Parsons, & Green, 1989). Use of staff management techniques may assist with increasing consumer engagement in group homes during times when personal care tasks and scheduled activities ordinarily do not occur.

**Staff Scheduling**

Scheduling specific times for leisure activities and specific staff to check-in with specific consumers (a) enables the activities to be scheduled at a time that does not interfere with other activities of the consumers and DCS, (b) enables DCS to be held accountable for facilitating the activities of the consumers, (c) decreases conflicts with other job responsibilities of DCS, and (d) clarifies the individual responsibilities of DCS.
Scheduling DCS to work with consumers has been a common intervention over the years. In one of the earliest studies published, Quilitch (1975) compared the effectiveness of three staff management strategies: distributing an official memo on daily activity times and their importance, conducting an activities workshop, and finally, scheduling staff to activity times and providing feedback on their performance. The results indicated that scheduling plus feedback improved consumer engagement to about 50% in comparison to the memo and workshop conditions, where engagement remained at baseline levels (5%). Richman, Riodran, Reiss, Pyles, and Bailey (1988) also used scheduling of staff as an intervention, combining it with self-monitoring, and subsequently, supervisor feedback. Scheduling, self-monitoring, and supervisor feedback produced increases in staff’s on-task and on-schedule behavior that were maintained across several sessions. These two studies indicate that scheduling combined with feedback can improve consumer engagement and staff interaction with consumers (Quilitch, 1975; Richman et al., 1988); however, the effects were only moderate and decreased over time with some staff (Richman et al., 1988).

Perhaps because of these and similar earlier studies, scheduling of staff has been used in most subsequent staff management interventions, but combined with other components. An illustrative study was conducted by Parsons et al. in 1989. Staff and consumers in 22 different living units were observed for an average of 5.5 days. The researchers classified consumers’ behavior as functional active treatment, engaged behavior (using or manipulating an object in a way that was not the object’s intended
purpose, but also not stereotypical behavior), and off-task behavior. It was found that consumers engaged in off-task behavior an average of 64% across all baseline observations. A package intervention was implemented; however, part of the package included scheduling staff to oversee different activities, providing specific times for activities, and providing descriptions to staff regarding their role. During intervention, off-task behavior decreased to an average of 41% across intervention observations.

**Check-In and Choice Procedure**

Simply scheduling staff for specific leisure times, or to work with particular consumers is not sufficient, however, because it does not clarify the procedures and steps that staff should perform when they are working with the consumers. Procedures must be developed for staff to interact with consumers.

Choice procedures have been used to increase consumer involvement in selecting and participating in various activities (Browder, Cooper, & Lim, 1998; Cooper & Browder, 2001; Engelman, Altus, & Mathews, 1999; Wilson, Reid, & Green, 2006). Staff were able to increase consumer selections during community outings by providing two choices and prompting responses (e.g., asking “which one do you want?” in the presence of two drink options and guiding the consumer to choose after a 5s delay and no response). Interestingly, staff generalized this procedure to other consumers with whom they worked but who were not participating in the study (Cooper & Browder, 2001).

In another study, a choice procedure was used to select locations for activities (Browder et al., 1998). After three adults with disabilities were taught the abstract concept of “settings” during communication training, researchers looked to extend the new skill. During the final phase of the study, the adults were instructed to select a
picture of a setting for activities, either at their day center or out in the community, using a forced-choice procedure (only two picture cards provided). Staff then took consumers to the setting to engage in previously identified preferred activities. All three consumers selected the setting that contained their highly preferred activities regardless of picture placement. The researchers reported that no errors in selecting occurred, meaning that consumers did not try to move to the setting they had not selected.

In a 2006 study, Wilson et al. taught DCS to implement a choice procedure targeted at increasing activity engagement for three adult consumers with multiple disabilities in supported living environments. Two of the three consumers lived alone and one consumer lived with a roommate. All consumers had one-on-one staffing, 24 hours a day. Initial assessments of the consumers’ engagement indicated zero levels of engagement. Researchers surveyed DCS to identify possible activities for each adult. DCS offered the consumers a choice between two of those activities. If the consumer selected an activity, the staff assisted the consumer as needed to engage in it. The staff then checked on the consumer every 2 minutes to see if he or she was still engaged. If not, the staff offered two new activities and repeated the procedure. Activity sessions lasted about 40 minutes a day and successfully increased engagement for all consumers (average engagement ranged from 69% to 83%). The staff all rated the intervention very positively. The researchers also sampled other consumers in group homes to ensure that the baseline rates of engagement found with the participating consumers were typical of adult consumers. They found comparable near zero rates of engagement.

In a 1999 study, Engelman et al. used a check-in procedure to increase engagement of older adults with dementia who lived in an assisted living facility. Before
the intervention, the average rate of engagement for the five participants was 41% during morning sessions and 31% during afternoon sessions. Certified nursing assistants (CNAs) were trained to implement a check-in procedure in which they checked on participants at least once every 15 minutes, praised participants if they were engaged and if not, offered the participant a choice of two activities. Supervisors observed CNAs and gave them performance feedback immediately after each observation, giving them, in writing, three positive statements about their performance and suggesting one area of improvement.

CNAs and participants were observed for about 50 minutes two times a day. Participants’ average engagement increased to 81% during morning sessions, and 72% during afternoon sessions. During a 6-week follow-up, average engagement increased during the morning sessions to 83%, but decreased to 68% during afternoon sessions, even though an additional staff training in-service was provided before the follow-up sessions. During the initial assessment, participants engaged in only seven different activities; this increased to twenty-seven during intervention.

In their 2007 trainee resource guide for the Positive Behavior Support training curriculum, Reid, Parsons, Rotholz, and Braswell emphasized the importance of choice in any individual’s life. Because consumers have fewer opportunities to make choices than the general public, it is crucial that leisure activities are viewed as choices and not as orders. It may also be difficult for consumers to make choices because staff may be unaware of how to appropriately provide options. Thus, Reid et al. (2007) developed a protocol, described in the guide, to offer choices to consumers. First, a vocal choice should be presented such as, “What would you like to do?” If the consumer doesn’t respond, two choices should be verbally presented, for example, “Would you like to color
or watch a movie?” If the consumer responds, then the staff should provide the selected activity immediately. It may be difficult for some consumers to understand what activities the staff’s vocal statements are referencing. In such cases, the activities should be in the staff’s hands or in close proximity when they are being offered. For instance, if the choice example above is repeated using this procedure, staff would hold out the coloring book when offering coloring and hold up the movie tape and gesture to the TV when asking about the movie. This may help facilitate choice making for consumers with language deficits.

Often times, consumers will respond neutrally to activity choice presentations and offerings. In these situations, Reid et al. (2007) recommend that an activity should be selected by staff and provided to the consumer to try. After the consumer has had the opportunity to try the activity, it should be offered again in a choice presentation. If the consumer rejects or responds neutrally to the activity, the staff should present a new one.

**Staff Training**

In order for staff to be able to implement a new procedure (e.g., a check-in procedure), they must be trained. Training group home staff presents some logistical problems because the staff are not all present at one time and many work at night or only one or two shifts per week. A staff training approach called “pyramidal training” can work well in these situations. Pyramidal training involves initially instructing a small number of staff who, in-turn, train the rest of the staff (Page, Iwata, & Reid, 1982). According to Page et al. (1982) and Reid et al. (1989), supervisory staff should be the staff that are charged with training their additional staff members. Using supervisors as trainers has a number of benefits. First, it increases the likelihood that the supervisor will
become an expert with the procedures the staff are implementing and assist with coaching staff to perform the tasks appropriately. It may also help increase the buy-in from staff to adhere to new procedures if they see supervisors demonstrating the skills.

Page et al. (1982) used pyramidal training to train three supervisory staff who instructed 45 DCS on the correct teaching behaviors to use with consumers. Supervisory staff also provided feedback to the staff on their performance after training. With the combined approach, the percentage of correct teaching behaviors, on average, increased from baseline to intervention across all six targeted behaviors.

Pyramidal training has since been used to instruct staff on additional teaching behaviors for consumers, as well as to teach staff how to decrease aberrant behavior (Haberlin, Beauchamp, Agnew, & O’Brien, 2012; Schlosser, Walker, & Sigafoos, 2006; Shore, Iwata, Vollmer, Lerman, & Zarcone, 1995). In order to increase requesting in children who lived in group homes, seven DCS were trained using a pyramidal training approach (Schlosser et al., 2006). The first three DCS, or first cohort, (voted the most dependable and experienced by the agency’s administration), were trained on the procedures by the author of the study during a one-day workshop. The remaining DCS were split into two cohorts. The first cohort trained the second cohort and then, a few sessions later, trained the third cohort by providing individual consultation to the staff in these cohorts and conducting one 20- minute practice session. During baseline, none of the cohorts provided opportunities to the children to request items and the children did not request any items. All cohorts saw an increase in opportunities provided and requesting from the children after training.
Having a group of expert trainers is one approach to pyramidal training (Page et al., 1982; Schlosser et al., 2006), but another approach is to designate a single trainer. In a 1995 study, Shore et al. trained one supervisor on procedures to reduce the problem behavior of two primary consumer participants and six replication consumers. The authors of the study trained the supervisor in three phases: data collection, the actual procedures for how to implement the consumers’ program, and how to train DCS to implement the procedures. The supervisor then met with staff and conducted training, in addition to monitoring staff performance and providing feedback. A total of 14 DCS were trained and all showed increases in their implementation of the procedures. Consumers’ target behaviors also decreased.

**Performance Feedback, Goal Setting, and Reward Drawings**

The combination of weekly graphic feedback and goal setting has long been shown to be a very effective staff management procedure (Alvero, Bucklin, & Austin, 2001; Balcazar, Hopkins, & Suarez, 1985-1986). Additionally, reward drawings (with low cost rewards) have been shown to increase staff performance when added to scheduling and feedback (Gaetani & Johnson, 1983; Iwata, Bailey, Brown, Foshee, & Alpern, 1976; Luiselli et al., 2009).

Gaetani and Johnson (1983) looked at several feedback approaches to help reduce cash shortages of 12 managers at 12 different retail beverage chains. After 21 weeks of baseline, the first intervention phase (of 4 phases) consisted of a weekly public posting of graphs indicating the efficiency estimate (EE). The EE was calculated by dividing total sales by cash shortages, with managers aiming for high EEs. Each weekly graph included data from all previous weeks as well as baseline data. The next intervention phase
consisted of a removal of the graphs, but included weekly praise to the managers if their weekly EE was above the baseline level. The next phase involved publically posting the weekly graph and weekly praise. The final phase incorporated a lottery component with the weekly publically posted graph and praise. The manager received two lottery tickets on a weekly basis if his or her EE was above baseline. It was found that the combination of a weekly graph, praise, and the tangible reward was the most effective method of increasing EE above baseline levels. The authors also reported that the overall cost of the tangible reward program was less than $100, but the company likely saved over $10,000 (Gaetani & Johnson, 1983).

Compliance with medical records is very important in human service settings. A staff management approach consisting of training, goal setting, weekly verbal feedback, and praise for a supervisor was shown to produce increases in record keeping by staff over baseline measures (Langeland, Johnson, & Mahwhinney, 1998). While it was noted that goal setting occurred, the study did not provide information on how goals were developed.

Additionally, research suggests that staff may react more favorably, both in terms of performance and satisfaction, when they are given formalized feedback on the consumer’s behavior than when given formalized feedback on their own behavior (Babcock, Sulzer-Azaroff, Sanderson, & Schibak, 1992; Reid & Parsons, 2006). This may be because such feedback is intrinsically rewarding to staff (they can see how their performance helps the consumer). It may also decrease the perception that “big brother is watching them”. Babcock et al. (1992) provided feedback to shift supervisors (who were implementing the intervention) on shift performance of appropriate glove use in addition
to their own performance of providing feedback to their assistants. This phase produced the highest level of glove compliance during the study and the highest level of feedback from the supervisors.

In the study described earlier by Wilson et al. (2006), measures of consumers’ engagement were reported back to staff instead of information about how well they implemented the intervention. Staff used a choice procedure to increase activity engagement with the three consumers who participated in the study. To gauge social validity, staff rated the statement, “I enjoy doing the procedure,” and ratings averaged 4.8 out of 5.0. The staff also responded favorably to the statement “The person I support is more actively engaged with leisure materials since I began using the choice procedure,” rating this statement 4.6 out of 5.0. This is important because when staff members enjoy a procedure and think it is effective, there is an increased likelihood that they will continue to use it (Reid et al., 1989; Wilson et al., 2006). Although Wilson et al. did not compare ratings or experimentally demonstrate ratings were high because staff were given feedback on the consumers’ behavior, this feature may have enhanced the ratings.

**Multi-Component Management Systems: Effects on Performance and Satisfaction**

Several researchers have examined the effects of multi-component management systems on the behavior of consumers and the performance and satisfaction of staff; however, to date these studies have focused on functional training of consumers, not leisure engagement. Parsons et al. (1989) implemented a group active treatment system that included staff scheduling, staff training on functional treatment, and supervisor monitoring and feedback, decreasing consumer off-task behavior in 25 homes from an average of 64% in baseline to 41%. In addition, functional training activities of
consumers doubled from an average of 13% during baseline to 26%. In a study conducted by Green et al. (1991) with eight DCS and fourteen consumers, the above components plus a monthly reward drawing decreased staff off-task behavior from an average of 18% to 93% during baseline to 2% to 8% during intervention, and increased functional training from an average of 0% to 7% during baseline to 84% to 91% during intervention. Consumer behavior also improved, although improvements varied across participants, who had profound multiple physical and cognitive impairments.

Multi-component management systems have also been rated very positively by DCS (Green et al., 1991; Reid & Parsons, 2006). In the Green et al. (1991) study discussed above, staff rated the overall management system a 4.1 out of 5.0, and rated the individualized, immediate feedback from the supervisor the highest of all of the components (4.5 out of 5.0). Reward drawings have also been well received by staff. For example, in one study, all of the DCS reported that a reward drawing, when added to a supervisory feedback system, made the quality of their work life extremely better and all chose to have it continued (Green, Reid, Passante, & Canipe, 2008). Interestingly, in this same study, before the reward drawing, the supervisor ranked observing staff and giving them feedback as his least preferred job duty; after the reward drawing was added, he ranked it as his most preferred. He also completed more of his scheduled observations (100% vs. 80%).

**Rationale for the Current Study**

The current study examined whether a staff management system, with a consumer check-in procedure as its foundation, would increase consumer engagement of leisure activities in a group home setting. The staff management system was implemented by the
group home staff and had several components: (a) scheduled time periods for consumer leisure activities, (b) assignment of DCS to specific consumers during those times, (c) weekly graphed feedback to DCS by program coordinators (PCs) with respect to the percentage of consumers who were appropriately engaged, (d) a monthly reward drawing for DCS when the percentage of consumers who were appropriately engaged met a weekly goal and, during the final phase, (e) weekly observation and feedback to DCS by PCs or assistant program coordinators (APCs) about their interactions with consumers. Additionally, each week PCs forwarded the graph displaying the percentage of appropriately engaged consumers to their supervising program director who commented on the data and sent the comments to the PCs.

As discussed earlier, similar staff management systems have been implemented in residential facilities to increase functional training activities (e.g., Parsons et al., 1989), but this type of management system had not been implemented to increase consumer leisure activities. The consumer check-in procedure has been shown to increase the leisure activity of three adult consumers in their homes with one-on-one staffing (Wilson et al., 2006) and also the leisure activity of the five older adults with dementia in a residential facility (Engelman et al., 1999); however, it had not been implemented in a group home setting with staff conducting the check-ins as a regular part of their job responsibilities. The current setting may be more challenging due to the high turnover of staff, the number of consumers in the home, and potentially competing demands (i.e., consumer problem behaviors). Agency staff were trained to conduct the check-in procedure using a pyramidal training approach, and treatment integrity data were collected to determine the extent to which DCS implemented it correctly.
During the last phase of the study, once a week, PCs or APCs observed and gave feedback to DCS about how well they were conducting the check-in procedure. This feedback procedure was isolated from the other components to determine whether it (a) increased treatment integrity, and if so, whether this (b) increased consumer engagement further. In previous studies, this type of feedback has been given daily or weekly as a component of the staff management system. However, this procedure is labor intensive for the PCs and APCs, and thus its effects were separated from the other components. Because the feedback procedure has been combined with other components in previous studies, it was not known whether it would affect treatment integrity or consumer engagement. Conceptually, it was likely to improve treatment integrity, but there were no previous data to support this. DCS have rated this type of feedback very favorably (Green et al., 1991); thus, it could increase their positive reactions to the management system. Social validity data were collected from staff after the second and third phases of the study and compared.
METHOD

Participants

The study was conducted in three 6 bed residential facilities serving cognitively impaired adults. Approximately 10 DCS worked in each home. All of the DCS and consumers in each group home were recruited for the study, however, not all participated. The intervention was first conducted in home 1. It involved 6 consumers and 12 DCS. Because no major changes were made to the protocol, the data from home 1 are included in the analysis. There were a total of 10 DCS and 7 consumers across the other two homes that participated (9 DCS and 5 consumers in home 2 and 1 DCS and 2 consumers in home 3). Thus, the total number of participants was 22 DCS and 13 consumers.

The consumers all had cognitive impairments that required staff supervision, ranged in age from 22 to 63, and included both genders. There were a total of 9 male and 4 female consumers. All of the consumers had a diagnosis of mental retardation. Other diagnoses included autism, impulsive disorder, schizophrenia, seizure disorders, hearing impairments, visual impairments and physical impairments.

Each consumer had the option of participating or not participating as described in the Subject recruitment and informed consent: Consumers section. Consumers participated in up to two one-hour scheduled leisure times, Monday-Friday for approximately 17 weeks (15 weeks in homes 1 and 3, 22 weeks in home 2). Consumers were invited to attend two daily scheduled leisure periods, but may have had other activities scheduled during that time and/or may have refused to attend the leisure periods on any given day.
In home 3, only 2 of the 6 consumers in the home opted to participate. Due to their schedules, sessions were only conducted Monday, Wednesday, and Friday, with 2 one-hour scheduled leisure times each of those days.

DCS all had at least a high school diploma, ranged in age from 19-54, and included both genders. The DCS in the study were predominantly female, with only 5 male participants. Several staff were also enrolled at local universities.

DCS also participated in the study for up to 2 hours a day, Monday-Friday, for approximately 17 weeks (15 weeks in homes 1 and 3, and 22 weeks in home 2). The total number of hours depended upon their work schedules; that is if they were scheduled to work when the leisure periods were scheduled. They were not asked to devote any time outside of their regular work hours.

In homes 1 and 2, a variety of DCS worked with the consumers in the study. However, in home 3 only one DCS worked with the consumers during the scheduled leisure times.

This study was not conducted until Western Michigan University’s HSIRB granted approval (see Appendix A). We also received approval from the residential facility agency and the community mental health board (see Appendices B and C).

**Setting**

The study was conducted in three 6 bed residential facilities in the same geographical area. The chief executive officer and program directors of the agency that administered the facilities selected the particular facilities that served as sites, based on the consumers’ functioning level and interest from the program coordinators who oversaw the homes. The facilities consisted of private bedrooms and bathrooms for
consumers, common living areas such as kitchens, dining rooms, living rooms, backyards, and in some locations, activity rooms. Leisure periods took place in the common living areas of the facilities.

**Materials**

Materials included leisure items the group home owned for all consumers (e.g., sports equipment, video games, puzzles, etc.), consumers’ personal leisure items, and items the author purchased for the group home. The supplemental items were bought by the author based on staff reports and a list compiled by Green et al. (1991).

Other materials included items for the staff monthly reward drawings. These included items such as gift certificates or prepaid gift cards for gas stations and local restaurants and did not exceed a $5 value. The items selected were based on a staff survey.

**Independent Variables**

A multi-component staff management system was implemented. The components are described in detail in the Procedures section.

**Dependent Variables**

Researchers collected the data that were used to evaluate the system. The dependent variables were (a) consumer engagement, (b) consumer affect, and (c) the number of different activities consumers engaged in.

**Behavior definitions.** Consumer engagement was recorded as “appropriate”, “receiving care”, “inappropriate”, “no engagement”, “not present” or “not home” (Engelman et al., 1999; Page et al., 1982; Wilson et al., 2006). Specifically, appropriate engagement consisted of participating in an activity that is useful in maintaining
independence, quality of life, or physical or mental health (e.g., drawing, cooking, setting the table, talking with staff). Watching television was considered appropriate engagement only when the consumer was oriented at the television and emitted an observable behavior; namely, making facial movements that corresponded to the program, tracking movements on the screen with his or her eyes, using the remote to adjust the settings (volume or channel) or clapping, singing, swaying, or rocking in time with the music being played. Otherwise, it was recorded as “no engagement”. Receiving care was scored when a consumer was receiving care from staff that they could not do independently including, moving to a different location in the home, receiving medication, or being fed from a tube. This measure was only recorded in homes 2 and 3. Inappropriate engagement consisted of maladaptive behavior (e.g., aggression, elopement, repetitive vocalizations). No engagement consisted of not participating in any form of activity (e.g., sitting alone, sleeping, staring blankly, and listening to the conversation of others without participating). Because consumers may not have participated in all leisure periods, there were two different options when they were absent: Not home, when the consumer was away from the home during the interval (e.g., at an appointment, at day program), and not present, when the consumer was not present during the interval (e.g., out of the sight of the observer, in his/her room, in the bathroom). In home 1, “not home” and “not present” were combined into one category of “not available.” Due to the individuality of the consumers, specific clarifications were made to the above definitions.

If consumers were appropriately engaged, consumer affect was measured. Consumer affect was recorded as “positive” (e.g., smiling, laughing, appears to be happy), “negative” (e.g., frowning, yelling, appears upset) or “undetermined” (e.g.,
cannot determine). Consumer affect was difficult to measure. Measurement was attempted in the current study for two reasons. First, Dillon and Carr (2007) stated that however difficult, it is important to try to evaluate indices of happiness and unhappiness of consumers. Second, the chief executive officer of the agency that administered the group homes in which the study was conducted, also believing in its importance, asked that these data be collected. Per the clinical recommendation made by Dillon and Carr, in the current study, trained observers using interval recording methods, attempted to measure consumer affect. Interobserver agreement data were collected on this measure (see below).

**Observation procedures and measures.** Data were recorded only for consumers who were in common living areas of the home. If consumers were in their bedrooms, for example, observers did not intrude on their privacy.

In the group homes administered by the agency, observers were able to observe consumers in the common living areas from one to two locations, that is, without having to follow consumers around. Observers did not trail behind the consumer; rather if it was necessary for observers to move while observing, they selected a position from which they could view the consumers that was as unobtrusive as possible.

Consumer engagement, affect, and the number of different activities that consumers engaged in were measured using a partial interval recording system in which each consumer was repeatedly observed sequentially during each one-hour leisure period. A partial interval recording system was selected based on previous research (Wilson et al., 2006) and to ensure appropriate engagement was not underreported. Observation intervals were 30 s, with 10 s devoted to observation, and 20 s devoted to recording. For
example, the observer observed the behaviors of Consumer A for 10 s, recorded data for 20 s, observed the behaviors of Consumer B for 10 s, recorded data for 20 s, and so forth until the behaviors of all consumers had been observed. The observer then repeated this cycle until the end of the one-hour leisure period.

If appropriate engagement occurred at any time during the observation interval, “appropriate engagement” was recorded. However, if appropriate and inappropriate engagement occurred within the same interval, it was recorded as “inappropriate”. If consumers were appropriately engaged during the observation interval, observers recorded the activity on the data sheet (e.g., cards, drawing, talking) and the consumers’ affect. If positive affect occurred any time during the observation interval with appropriate engagement, “positive” affect was recorded.

Observation and recording was cued via an electronic device with an earplug. The data recording form differed depending upon the number of consumers present at each scheduled leisure period. A sample recording form for observing four consumers is provided in Appendix D. The letters on the form (i.e., A, B, C, and D) are examples of the letters that were randomly assigned to participant consumers to protect their confidentiality on the recording form.

The average percentages of intervals in which (a) appropriate, (b) receiving care, (c) inappropriate, and (d) no engagement occurred during each of the scheduled leisure periods were used as the measures of consumer engagement. Data were averaged across consumers and leisure periods weekly, and graphed. The total number of different activities that consumers engaged in during each scheduled leisure period was calculated and used as the measure of activity variety across phases of the study. Finally, the
average percentages of intervals in which (a) positive, (b) negative, and (c) undetermined affect occurred during each leisure period were used as the measures of consumer affect. Data were again averaged across consumers and leisure periods, and the percentages across the phases of the study were calculated.

**Interobserver agreement (IOA).** A second observer recorded the above data (consumer engagement, affect/pleasure, and the number of different activities that consumers engaged in) at the same time as the primary observer for an average of 29.7% of sessions across homes (range 25% - 38%). IOA was calculated for each measure: consumer engagement, activity, and affect. It was calculated by dividing agreements by agreements plus disagreements, and multiplying by 100. The average IOA for consumer engagement across all three homes was 96.3% (range 95% - 98%). For activities, the average IOA across all three homes was 90% (range 87% - 94%). Finally, for affect, the average IOA across all three homes was 71.7% (range 59% - 86%). Because affect was a subjective measure, it was expected that IOA on this measure would be lower.

An overall weekly average of IOA across all three measures was also calculated. It was calculated by dividing agreements by agreements plus disagreements, and multiplying by 100. The average weekly agreement of IOA across all three homes was 91% (range 91% - 92%) across all three measures (consumer engagement, activity, and consumer affect).

**Experimental Design**

The research design was a combined noncurrent (home 1) and concurrent multiple baseline design (homes 2 and 3) across group homes with an AA’BC sequence. A was an initial baseline assessment, A’ was a PC walk-around procedure (to determine the
percentage of consumers who were appropriately engaged so goals could be set for the
next phase – see below), B was the staff management intervention, and C was the
addition of individualized, more immediate supervisory feedback to DCS. The length of
each phase depended upon the data (a new phase was not implemented until the data
were relatively stable). In home 1, the initial assessment phase was 2 weeks, the PC walk-
around phase was 1 week, the staff management phase was 8 weeks (sufficient time for
two monthly reward drawings), and the supervisor observation and feedback phase was 4
weeks. In home 2, the initial assessment phase was 7 weeks, the PC walk-around phase
was 2 weeks, the staff management phase was 8 weeks, and the supervisor observations
and feedback phase was 5 weeks (due to a death of one of the consumers in the home
who was not participating in the study). In home 3, the initial assessment phase was 1
week, the PC walk-around phase was 2 weeks, the staff management phase was 8 weeks,
and the supervisor observation and feedback phase was 4 weeks.

Procedures

Subject recruitment and informed consent: Consumers. Consumers in the
group homes were recruited for the study after a release of information was obtained
from the group homes. The consent and assent process depended upon whether the
consumers were their own guardians and their verbal ability. Copies of the consent and
assent documents are in Appendices E through H. Detailed procedures are contained in
WMU’s HSIRB protocol, which can be obtained from the author. Consumers were able
to join the study at any time; however, no consumers opted to join the study or withdraw
from the study after the initial recruitment phase. All consumers’ data that opted to
participate were included in data analysis.
Both DCS and the agency knew which consumers/guardians consented because the check-in procedure could only be implemented with consumers for whom consent had been obtained. This did expose consumers to potential coercion, which the author recognized as a risk. To attempt to limit this risk, the researchers obtained ongoing consent.

Before each leisure period, a researcher approached each consumer who consented/assented to participate in the study in the common area of the group home and asked the following: “Hi, my name is ___. Do you want staff to interact with you during the leisure time today? It’s OK if you don’t, someone will ask you again before the next one. If you want to, and then want to stop, you can tell staff during the leisure time, and that’s OK too.” Researchers attempted to ask the consumer out of the hearing range of any DCS to limit coercion. However, due to the nature of the group home, and the fluidity of DCS and other consumers moving in and out and around common areas, this may not have always been possible. The author recognized that this procedure might still be coercive to consumers because of the fact that DCS and other consumers may have heard the researchers ask a participant consumer.

Consumers who did not participate in the study received services they had in the past during the leisure periods. To facilitate this, DCS were assigned to work with both non-participating and participating consumers. If non-participating consumers initiated inclusion in activities, they were included. However, staff were instructed not to implement the check-in procedure with non-participating consumers because it would violate informed consent. Only the behavior of those consumers who consented/assented to participate were recorded by researchers.
Subject recruitment and informed consent: DCS. At a regularly scheduled staff meeting, the agency supervisory staff told the DCS that the author was conducting a study in the group home and introduced the author. The agency supervisory staff then left and the author described the study.

DCS were required to implement the check-in procedure with participating consumers; however the author sought consent for use of their data for research purposes. DCS were required to implement the check-in procedure to protect their confidentiality and ensure there were sufficient staff to implement the check-in procedure with the participating consumers. If DCS were not required to implement the check-in procedure, participating and non-participating DCS could be identified by the agency, placing them at greater risk of employment jeopardy.

To reduce the risk of DCS participation, the chief operating officer of the agency, signed a letter indicating that (a) the identities of those who agreed to participate and those who declined to participate would remain confidential, (b) DCS would not be placed in employment jeopardy if their confidentiality was breeched because of their participation or non-participation, and (c) DCS would not be placed in employment jeopardy due to any information collected as part of the study (Appendix B).

Procedurally, the author or, if the author had worked with the DCS member in the past due to a former position, her research assistant, scheduled individual meetings with each DCS member during his or her work hours to discuss the study and consent (see Appendix I for the consent form). She or he met with each DCS individually in a private office at the group home where the person worked. No other agency staff were present.
**Pre-study.** PCs reported to the program director. APCs reported to the PCs and supervised the DCS when the PCs were not present. Before the study began, the author met with the program director and asked him or her to identify the PCs and APCs in each home who were responsible for overseeing the staff management system. She then met with the PCs and APCs to explain the study’s goals and procedures.

Two one-hour leisure periods were selected based on the best times for consumers and DCS in each home. Times were selected when consumers had the option to engage in leisure activities and were not involved in meals or direct care (i.e., morning routines related to getting out of bed). As indicated earlier, some consumers had conflicting off-site activities during some of the leisure periods. Consumers could still participate when they were in the group home even if they were not be able to attend all of the leisure periods.

**Observer training.** Observers were trained in the group home by the author one week before baseline assessment. Because each group home and every consumer was different, the author assessed the definitions for engagement as she trained her observers on data collection. This allowed time to modify engagement definitions to account for various types of appropriate engagement that might have been confused with aberrant behavior or vice versa. The training week data were not used in the data analysis. The author and observers collected data at the same time. Observers had to obtain a 90% agreement with the author on all three measures (consumer engagement, activities, and affect) before observers were permitted to collect data on their own. All observers met the training criteria.
Baseline (phase A and A’). During baseline A, observers assessed consumer engagement, affect, and the number of activities consumers engaged in. During baseline A’, the PC or APC walked through the home during the leisure periods, counting the number of consumers (in the common areas of the home) who were appropriately engaged, using the form provided in Appendix J. The PC or APC did this once per leisure period. PCs and APCs were able to select the time they walked around, but were instructed to vary the times so that DCS could not anticipate when walk-arounds would occur. The definitions of appropriate, receiving care, inappropriate, or no engagement were the same as those used by researchers.

The PCs and APCs informed the staff that they were conducting these walk-arounds; however, PCs and APCs did not give staff the data. The data were used to determine the weekly engagement goals for monthly reward drawings (see below).

Staff management system (phase B).

Preference assessments. Approximately one week before this phase, the author conducted preference assessments with each consumer to determine his or her preferred leisure activities. A list of potential activities was developed for each consumer by (a) identifying the activities the consumer engaged in during baseline, (b) asking the consumer, staff, and/or guardians what leisure activities the consumer enjoyed, and (c) selecting additional items from a list of common leisure items that were appropriate for cognitively impaired adults (Green et al., 1991). Then, the author conducted structured preference assessments with consumers using activities from the list. The assessment procedures that were used were based on Reid et al. (2007) and detailed in Appendix K.
The DCS and APCs in the group home were present during these assessments and helped
the consumers engage in activities as needed.

**Check-in procedure.** Again, approximately one week before phase B began, the
author trained the PCs and APCs on how to do the check-in and choice procedures. Once
they were trained, she assisted the PCs and APCs to train the DCS. The protocol
developed by Reid et al. (2007) was used to train staff on how to conduct the choice
procedures.

During the leisure periods, DCS checked-in with each consumer about every 15
minutes to determine whether the consumer was appropriately engaged. If the consumer
was engaged, DCS praised the consumer and commented favorably on the activity. If the
consumer was not engaged, DCS asked the consumer, “Would you like me to show you
some activities?” If the consumer said no, the DCS responded neutrally, saying
something like, “OK, I’ll check back with you in a few minutes to see if you want to see
some activities then” and asked the question again in about 15 minutes. This allowed
consumers to deny the interaction. If the consumer said yes, the DCS implemented the
choice procedure. Specifically, DCS offered the consumer two choices, either verbally or
by presenting the items. If the consumer selected one, DCS provided the necessary
materials and assisted as needed. If the consumer responded neutrally, DCS provided the
materials for one activity and began the activity. If the consumer refused both activities,
DCS presented two new activities. If the consumer rejected the second set of activities,
DCS again responded neutrally, saying something like, “OK, I’ll check back with you in
a few minutes to see if you want to do something then”, and approached the consumer
again in 15 minutes.
If consumers were not in a common living area of the home, DCS were instructed to implement the check-in procedure using standard agency procedures. For example, if consumers were in their bedrooms, DCS were instructed to knock on their door and ask if they could come in. If consumers gave permission, DCS entered the room and completed the check-in procedure. If consumers did not give permission, DCS would return and knock on the door again in 15 minutes. However, as stated earlier, observers did not collect data on these interactions.

DCS were instructed to continue their usual facilitation procedures for consumer engagement during other times of the day in an attempt to reduce the risk that DCS would restrict their facilitation to the scheduled time periods.

**DCS scheduling.** PCs developed a schedule each week for the upcoming week. They paired one DCS with 1 to 2 consumers during each leisure period, regardless of whether the consumers were participating in the study or not. As stated earlier, this was done to help ensure that DCS would continue to interact with non-participants according to agency policies during the leisure periods. DCS were rotated so that they did not work with the same consumers each period unless DCS worked with only one consumer (e.g., 1-1 staffing). However, as stated earlier, in home 3 only one DCS and the two participating consumers were present during the scheduled leisure times, so that DCS was always paired with the two participating consumers. PCs put the schedule in the home’s log book. DCS consulted the log book to determine which consumers they were working with each day. If a DCS did not attend work one day, the PC would either re-assign DCS or assign a relief staff worker to interact with the consumers during that time. If the relief worker had not been trained on the check-in procedure, the PC would ask the relief
worker to assist consumers in leisure activities using standard agency procedures. Observers would not record data for consumers assigned to untrained relief workers. However, often when a relief worker was untrained, other DCS conducted the check-in procedure with that consumer. Data were collected for the consumer if that occurred.

**DCS performance feedback and monthly reward drawings.** Consumer engagement goals were developed based on the data collected by the PCs and APCs during baseline A’. Weekly goals were set. They were determined by the agency’s program director and the PCs in consultation with the author. Because the consumers and number of consumers differed during each leisure period, goals were set for each leisure period for each home and stated in terms of the percentage of appropriately engaged consumers. Two goals were set for each leisure period. The number of chances that a staff member had to win the monthly reward drawing was based on whether the low or high goal was met (see below).

Every week, the PCs graphed the percentage of appropriately engaged consumers for each leisure period and placed a copy in the log book with comments, also indicating whether one of weekly engagement goals were met and which DCS had been entered into the reward drawing. PCs sent the graph to their program director and to the author electronically. The graph contained only aggregate data (e.g., the percentage of consumers engaged per leisure period per day).

If PCs or APCs were unable to complete a walk-around, they mentioned this in the email to the program director, briefly explaining the reason. Program directors reviewed the graph and were asked to email comments back to PCs the following Monday. PCs asked DCS to review the graph at the beginning of the first shift they
worked the following week and write their initials on the graph to indicate that they had reviewed it.

A reward drawing, based on the weekly engagement goals, was held at monthly regularly scheduled staff meetings. Each week, if the average percentage of appropriately engaged consumers met the goal, every DCS who worked with those consumers during the scheduled leisure periods was entered into the reward drawing. Goals were tiered; that is, as indicated above, there were actually two goals. If the lower goal was met, each DCS who worked during the scheduled leisure period was entered into the reward drawing once. If the higher goal was met, each DCS was entered twice. Thus, DCS could be entered up to four times each week if they worked during both the morning and afternoon scheduled leisure periods and the higher weekly goal was met for both.

Entries were placed in a container and the PC or author drew out three different names. There was list of items (described earlier) and DCS chose items based on the order in which their name was drawn. That is, the person whose name was drawn first selected an item from the list; the person whose name was drawn second selected from the remaining items, and then the third person selected an item.

**Supervisor observation and feedback (phase C).** To determine whether feedback would increase the extent to which DCS correctly implemented the check-in procedure and whether that, in turn, increased consumer engagement, PCs and APCs observed and provided feedback to each DCS once a week using the form in Appendix L. Approximately one week before this phase, the author trained the PCs and APCs on (a) how to provide specific and objective feedback to DCS using the form, (b) the policies
regarding the confidential nature of this information, and (c) the policies protecting DCS from employment jeopardy when using this form.

PCs or APCs observed until the DCS completed the check-in procedure with one consumer, recording (a) if the consumer was appropriately engaged, (b) if the DCS praised the consumer if the consumer was appropriately engaged and, if not, offered the consumer a choice of activities, (c) the activity the consumer was engaging in or selected, (d) whether the consumer appeared to be enjoying the activity, (e) whether the consumer engaged in a problem behavior identified in his or her behavior plan (if applicable), and (f) if the DCS interacted with the consumer in an overall positive way.

PCs or APCs provided feedback to DCS in a private area (e.g., the home office) immediately after the scheduled leisure period. PCs or APCs provided the feedback after the scheduled leisure period rather than immediately after they observed the DCS so that interactions between DCS and consumers were not interrupted. PCs or APCs were instructed to give DCS three positive comments and one comment about something the DCS could improve, in writing, coaching the DCS on procedures if relevant.

If a staff member did not interact with a consumer during the leisure period, PCs or APCs met with him or her after the scheduled hour and, neutrally, asked if there was a reason that prevented the DCS from interacting with the consumer, reminded the DCS of the check-in procedure, and rescheduled the observation for another day that week, if possible.

After PCs or APCs delivered the feedback, the DCS signed the first page of the form indicating that he or she received feedback. If PCs or APCs could not conduct a scheduled observation and were unable to reschedule it that week, they stated the reason
on the form. Every Friday, PCs scanned the first pages of the forms and emailed them to the program director and the author. Only the first page of the form was scanned and sent to the program director and the author. The first page contained the name of the PC or APC that provided feedback to the DCS and the signature of the DCS member to indicate that he or she received feedback. The page that was scanned did not include the observation or feedback data. This was designed to increase the likelihood that the PCs, APCs, and DCS perceived this feedback procedure to be opportunities for coaching rather than formal evaluations of performance.

Treatment Integrity

During phases B and C (the phases in which DCS were doing the check-in procedure), a second researcher recorded the extent to which DCS implemented the check-in procedure correctly for an average of 38% of the leisure periods across the three homes. Using the form in Appendix M, the second researcher recorded (a) the (clock) time when the DCS member checked with his or her assigned consumer, (b) whether the consumer was appropriately engaged at the time the DCS member checked with the consumer, (c) whether the DCS praised the consumer if the consumer was appropriately engaged, and (d) if the consumer was not appropriately engaged, whether the DCS asked the consumer if he or she would like the DCS to offer him or her activities, and (e) whether the DCS offered the consumer a choice of activities and if the DCS did this correctly.

In order to probe how often DCS engaged in these behaviors prior to the staff management program, these data were also collected during the last week of the A’ phase in homes 2 and 3.
To assess treatment integrity for the DCS, the weekly average percentage of correct check-in and choice procedures for each leisure period was recorded. These data were aggregated across DCS by home. To assess treatment integrity for the supervisors (PCs and APCs), the following data were recorded: (a) the percentage of supervisory walk-arounds that were used to determine the percentage of consumers appropriately engaged during each leisure period, (b) the percentage of weekly graphs the PCs completed to provide feedback to the DCS, (c) the percentage of weekly graphs the PCs sent to the program director for comment (and also sent simultaneously by email to the author), and (d) the percentage of DCS observations the supervisors completed during phase C.

During the study, the author discovered that the home 2 and home 3 PCs were developing the DCS feedback graphs but not sending them to the program director or author each week. This was not something the author had anticipated. The author had intended to use the receipt of the graphs as confirmation that the PCs developed them and made them available to staff each week. Thus, the author revised this procedure during the baseline phases for homes 2 and 3, asking the research assistants to confirm that the graphs had been developed and made available to staff during the first scheduled session of the week. Because the graph was used to give staff feedback on the percentage of consumers who were appropriately engaged during each leisure period, the completion of the graph was a more important protocol component than sending the graph to the program director or author; however the graph completion data are not as reliable as desired and should be interpreted cautiously.
Social Validity

Social validity was assessed after phase B and after phase C using staff receptivity surveys. The survey after phase B was based on the social validity survey used by Wilson et al. (2006) and consisted of 8 questions on a Likert scale (1, “strongly disagree” and 5, “strongly agree”). The questions were: (a) the people I support are more actively engaged with leisure materials since I began using the check-in procedure, (b) the check-in procedure is easy for me to do, (c) I enjoy using the check-in procedure with the people I support, (d) since I learned to do the check-in procedure during the scheduled times, I have used it at other times during the day, (e) the people I support appear to enjoy participating in the check-in procedure, (f) receiving information about the engagement of people I support was useful, (g) I liked the monthly reward drawing, and (h) overall, I like the new check-in, feedback, and monthly reward drawing program.

The survey after phase C also used the Likert scale described above. The second survey consisted of 6 questions: (a) the addition of supervisor feedback helped me implement the check-in procedure, (b) I liked receiving regular supervisor feedback, (c) I thought I received a sufficient amount of supervisor feedback, and (d) overall, I like the check-in, feedback, and monthly reward program. Two open ended questions were also included: (e) please list three things you liked about the check-in, feedback, monthly reward drawing and supervisory feedback procedures, and (f) please list three things you would change about the check-in, feedback, monthly reward drawing and supervisory feedback procedures. The surveys are provided in Appendix N.

Ratings were averaged across DCS and reported. Average ratings for the overall item (the last item on each survey) was compared for phase B and phase C to determine
whether the more individualized, immediate supervisory feedback improved staff acceptability.
RESULTS

There are two caveats with respect to the presentation of the results. First, because minor alterations were made to the research protocol between implementation in home 1 (the non-concurrent home) and homes 2 and 3 (the concurrent homes), results that could have been affected by the changes are presented separately for home 1. Specifically, the consumer engagement data, treatment integrity data for the DCS, and treatment integrity data for the supervisors (the PCs and APCs) are reported separately for home 1. Second, while phase B, the staff management intervention, lasted eight weeks in all of the homes, the data from the first week of phase C, the addition of supervisor feedback, were included in the phase B data analyses for the consumers (engagement, affect, and the number of activities), and DCS (treatment integrity-procedural steps completed correctly). This was done because in phase C supervisors provided feedback to staff once a week, immediately following their observations. Thus, although staff could have altered their performance due to the supervisor’s presence in the first week of phase C, they could not have altered their performance based on the supervisor’s feedback until the second week. That being the case, the consumers were also still functionally in phase B during the first week of phase C. In contrast, analysis of the supervisors’ treatment integrity included data from the first weekly sessions of phase C. In figures 1-4, phase C is delineated by a vertical solid phase change line. A vertical dashed line precedes the second weekly session in phase C.

Consumer Engagement

Figure 1 displays the weekly average percentage of intervals during which consumers were appropriately engaged, inappropriately engaged, and not engaged in
home 1. Figure 2 displays the same data for homes 2 and 3, with the addition of the percentage of intervals consumers were receiving care. Receiving care was not measured in home 1 and coded as appropriate engagement.

**Figure 1.** Average weekly percentage of intervals of appropriate, inappropriate, and no engagement in home 1. The asterisk indicates the reward drawing.

**Home 1.** In home 1, appropriate engagement averaged 48% (range 0%-100%), 69%, (range 23%-100%), and 65% (range 33%-100%) during baseline (phases A and A’), phase B, and phase C, respectively. During phase C, appropriate engagement decreased slightly, but was trending upward when the study ended. The primary activity of the consumers (the Wii) broke when phase C began, which likely accounts for the decrease.

The variability was high across leisure periods in all phases. The 100% engagement during leisure periods was usually due to one consumer who was the only one present during some of the leisure periods and who, thus, often engaged with the staff for the entire period.
Figure 2. Average weekly percentage of intervals of appropriate, receiving care, inappropriate, and no engagement in homes 2 and 3. The asterisk indicates the reward drawing.

**Homes 2 and 3.** In home 2, appropriate engagement averaged 26% (range 0%-72%), 32% (range 0%-71%), and 37% (range 2%-88%) during baseline (phases A and A’), phase B, and phase C, respectively. In phase C, some sessions were cancelled during weeks 20 and 21 because of the death of a consumer and the funeral. As in home 1, variability was high across all leisure periods in all phases.

In home 3, appropriate engagement averaged 63% (range 0%-97%), 76% (range 30%-100%), and 85% (range 67%-90%) during baseline (phases A and A’), phase B, and phase C, respectively. Appropriate engagement was, however, trending downward in phase C when the study ended. As in homes 1 and 2, the variability was high across all leisure periods in all phases in both homes.
Summary across homes. In homes 1 and 2, appropriate engagement was below 50% during baseline, as expected based on previous research; however it was higher than expected in home 3 (63%) (Engelman et al., 1999; Wilson et al., 2006). Regardless, appropriate engagement increased in all three homes when the staff management system was implemented in phase B, again as expected (Engelman et al., 1999; Wilson et al., 2006).

Throughout the study, increases in appropriate engagement corresponded to decreases in no engagement in all homes. Although receiving care was not measured separately in home 1, it was at zero or near zero levels throughout the study in homes 2 and 3, and thus did not affect the engagement data. Similarly, inappropriate engagement was at zero or near zero levels throughout the study in all three homes.

The effects of the supervisor observations and more immediate staff feedback (phase 3) on appropriate engagement in homes 1 and 2 are unclear due to confounds. Appropriate engagement appears to have increased in home 3, but was trending downward at the end of the study. There were no expectations regarding consumer engagement during this phase because this was the first study to separate supervisor observation and staff feedback from the other components of a staff management system.

Consumer Affect

The author anticipated that if consumers were engaging in activities, their affect would be positive; thus, she expected higher levels of positive affect when appropriate engagement increased. Due to the lack of research in this area, no predictions could be made.
In home 1, positive consumer affect averaged 63% (range 14%-92%), 69% (range 5%-100%), and 80% (range 0%-100%) during baseline (phases A and A’), phase B, and phase C, respectively. Average negative affect remained low in all three phases: 1.22%, 0.12%, and 0.13%, respectively. In home 2, positive consumer affect averaged 20% (range 0%-62%), 21% (range 0%-100%), and 27% (range 0%-98%) during baseline, phase B, and phase C, respectively. As in home 1, average negative affect was low in all three phases: 0.10%, 0%, and 0%, respectively. In home 3, positive consumer affect averaged 6% (range 0%-24%), 9% (0%-63%), and 18% (1%-30%), during baseline, phase B, and phase C, respectively. Once again, negative affect was low, averaging 0% in the first two phases and 0.60% in phase C.

Although the variability was high, positive affect increased across the study in all three homes: Phase C averages were quite higher than baseline averages. Thus, the staff management program appears to have increased the positive affect of consumers; however, because the positive affect results did not covary with appropriate consumer engagement across the phases, the specific reasons for the changes are unknown. It is possible that increased staff interaction may have contributed to the changes even when the check-in and choice procedure did not increase appropriate engagement.

**Number of Activities**

In regards to the variety of activities, the author anticipated that most consumers would engage with a few leisure items, with limited variation during baseline. In phases B and C, the author expected the variety of activities would increase because staff offered more options.
In home 1, the number of different activities consumers engaged in per leisure period averaged 4.3 (range 1-8), 5.6 (range 1-12), and 6.1 (range 1-11) during baseline (phases A and A’), phase B, and phase C, respectively. In home 2, the number of different activities averaged 3.8 (range 0-10), 4.6 (range 0-13), and 5.3 (range 1-9) during the three phases, respectively. In home 3, the number of different activities averaged 5.6 (range 0-10), 6.9 (range 2-14), and 5.9 (range 5-7).

With the exception of phase C in home 3, the number of different activities increased across phases in all homes, although the increases were often small, particularly when the ranges are taken into account. Nonetheless, these increases are consistent with previous research, although they are not as pronounced (Engelman et al., 1999).

**Treatment Integrity: Direct Care Staff**

Figures 3 and 4 display the weekly average percentage of check-in steps that were correctly implemented by staff in home 1 and in homes 2 and 3, respectively. As indicated earlier, these data were not collected in A’ for home 1, but were for homes 2 and 3.

**Home 1.** In home 1, the weekly percentage of correctly completed check-in steps averaged 79% (range 45%-100%) and 84% (range 74%-100%) during phase B and C, respectively. Researchers collected these data for 46% of the sessions in phase B and 27% of the sessions in phase C.
Figure 3. Average weekly percentage of intervals staff correctly implemented the check-in procedure in home 1. The asterisk indicates the reward drawing.

Figure 4. Average weekly percentage of intervals staff correctly implemented the check-in procedure in homes 2 and 3. The asterisk indicates the reward drawing.

Homes 2 and 3. In home 2, the weekly percentage of correctly completed check-in steps averaged 40% (the data were collected for one week only), 67% (range 44%-100%), and 74% (range 63%-89%) during phase A’, B, and C, respectively. Researchers
collected these data for 20%, 34%, and 28% of the sessions during the three phases, respectively.

In home 3, the weekly percentage of correctly completed check-in steps averaged 60% (the data were collected for one week only), 71% (range 50%-93%), and 80% (range 77%-83%) during phase A’, B, and C, respectively. Researchers collected these data for 20%, 39%, and 27% of the sessions during the three phases, respectively.

**Summary across homes.** Implementation of the staff management program in homes 2 and 3 during phase B increased the extent to which staff interacted with consumers and offered choices of leisure activities, which corresponded with increases in consumer engagement in both homes (see Figure 2).

In phase C, supervisor feedback increased the average percentage of check-in steps completed correctly by staff, and also reduced the variability of the range in all three homes. In both homes 1 and 3, the average appears to be trending downward across phase B. In home 1, the trend reversed during the second week of phase C. Interestingly, in home 3, the average percentage increased during the first week of phase C, before the supervisory feedback. There was only one staff member in this home during the leisure periods. When she completed the staff survey at the end of phase C, she stated she never received feedback during this phase, even though the supervisors collected data on her performance. Thus, simply the presence of the supervisor appears to have influenced her performance. In home 2, the average percentage increased during the second week of phase C, and appears to be higher during this phase than in phase B.

Review of the data indicated that the step that was most frequently performed incorrectly was providing choices to the consumers. It may be that staff failed to offer
options because they believed that they knew the preferred activities of the consumers based on the consumers’ choices in the past. They may also have felt that the consumer was content not engaging in activities for that interval.

**Treatment Integrity: Program Coordinators and Assistant Program Coordinators**

Figures 5 and 6 display the treatment integrity data for the PCs and APCs. Specifically, they display the weekly percentage of (a) walk-arounds by the PCs or APCs to determine the appropriately engaged consumers during each leisure period, (b) graphs made by the PCs to deliver feedback to DCS regarding the percentage of appropriately engaged consumers, (c) graphs the PCs sent to the program director for comment (and sent simultaneously to the author for confirmation), and (d) completed DCS observations by PCs or APCS during phase C. Although the data are displayed weekly by phase, they are summarized below across phases because these responsibilities were not targeted for change. That is, supervisors completed these activities as part of the management program to change staff and, ultimately, consumer behavior, but no contingencies were altered to affect these activities.

**Home 1.** As indicated previously, data on supervisor walk-arounds were not collected for phase A’ in home 1. In the relevant phases (B and C), supervisors completed 95% (range 80%-100%) of the walk-arounds. Also during these phases, the PC developed 100% of the weekly graphs, and sent 83% (10 of 12) to the program director for comment as scheduled. The PC sent the two late graphs to the program director only one day after the deadline. During phase C, supervisors conducted 81% (range 60%-100%) of scheduled staff observations.
Figure 5. Average weekly percentage of completed graphs, graphs received on time, supervisor walk-arounds, and supervisor observations in home 1.

Figure 6. Average weekly percentage of completed graphs, graphs received on time, supervisor walk-arounds, and supervisor observations in homes 2 and 3.

Homes 2 and 3. In home 2, in the relevant phases (A’, B, and C), supervisors completed 55% (range 0%-80%) of the walk-arounds. Also during these phases, the PC developed 80% of the graphs (12 of 15); however, the PC only sent 20% (3 of 15) to the
program director for comment as scheduled. The PC did send all of the completed graphs to the program director, but because she sent them in batches, only three were sent on schedule. During phase C, supervisors conducted only 18% (range 0%-33%) of scheduled staff observations.

In home 3, in the relevant phases, supervisors completed 67% (range 30%-100%) of the walk-arounds. The PC developed only 29% of the graphs (range 0%-100%), and none were sent to the program director as scheduled. During phase C, supervisors conducted 100% of scheduled staff observations.

**Summary across homes.** In home 1, the staff management system was implemented as designed. That was not the case in homes 2 and 3. Implementation of the system components varied widely both within and across the homes. Additionally, in home 3, even though supervisors conducted all of the scheduled observations in phase C, the DCS member, who, due to scheduling, was the only staff member interacting with a consumer, reported that the PC did not give her feedback after the observations as discussed earlier.

**Social Validity**

Tables 1 and 2 display the average ratings and standard deviations for questions on the staff receptivity surveys, which were administered after the staff management system phase (phase B) and the supervisor observation and feedback phase (phase C). No surveys were returned for home 2. Because the surveys were not changed between the non-concurrent home and the concurrent homes in the study, the results are aggregated across homes 1 and 3. A total of eight out of thirteen surveys were returned for the first survey and four out of thirteen surveys were returned for the second survey.
### Table 1
*Means and Standard Deviations from the Staff Receptivity Survey after phase B*

<table>
<thead>
<tr>
<th>Question</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The people I support are more actively engaged with leisure materials since I began using the check-in procedure.</td>
<td>3.50</td>
<td>1.09</td>
</tr>
<tr>
<td>2. The check-in procedure is easy for me to do.</td>
<td>3.63</td>
<td>1.01</td>
</tr>
<tr>
<td>3. I enjoy using the check-in procedure with the people I support.</td>
<td>3.63</td>
<td>0.73</td>
</tr>
<tr>
<td>4. Since I learned to do the check-in procedure during the scheduled times, I have used it at other times during the day.</td>
<td>3.88</td>
<td>0.60</td>
</tr>
<tr>
<td>5. The people I support appear to enjoy participating in the check-in procedure.</td>
<td>3.00</td>
<td>0.83</td>
</tr>
<tr>
<td>6. Receiving information about the engagement of people I support was useful.</td>
<td>2.50</td>
<td>1.36</td>
</tr>
<tr>
<td>7. Monthly reward drawings helped motivate me to continue using the procedure.</td>
<td>2.25</td>
<td>1.83</td>
</tr>
<tr>
<td>8. Overall, I like the check-in, feedback, and monthly reward program.</td>
<td>2.88</td>
<td>1.94</td>
</tr>
</tbody>
</table>

Each question was rated from 1.0 to 5.0; strongly disagree to strongly agree (see Appendix N for the surveys). The average ratings for three questions on the first survey, “Receiving information about the engagement of people I support was useful”, “Monthly reward drawings helped motivate me to continue using the procedure”, and “Overall, I
like the check-in, feedback, and monthly reward program” fell below a 3.0 rating. The lowest rating occurred for Question 7, “Monthly reward drawings helped motivate me to continue using the procedure”. The ratings were expected to be higher (4.0 or higher) based on previous research (Wilson et al., 2006). On the second survey, all of the ratings averaged above a 3.0. The lowest rating occurred for Question 2, “I liked receiving regular supervisory feedback” ($M = 3.25$).

The last question on each survey assessed the staff’s overall satisfaction with the staff management system. The average rating on the first survey was 2.88 with a standard deviation of 1.94. The average rating on the second survey was 3.50 with a standard deviation of 0.58. Both ratings were lower than expected, though the average on the second survey was considerably higher, suggesting that supervisor feedback contributed to this change. However, it should be noted again that only four surveys were returned for the second survey.

**Follow-up**

Formal follow-up procedures were not collected as part of this study. However, the author remained in contact with the host agency, program directors, and PCs and offered assistance to continue the program after the study ended in each of the homes. None of the homes continued the procedures.
DISCUSSION

There were two main purposes of this study. The first was to evaluate the effectiveness of a staff management procedure designed to increase the leisure activities of adults with developmental disabilities in a group home setting. The second was to determine if the group home staff could implement the procedures independently. The results were mixed. Although appropriate consumer engagement increased and direct care staff were able to implement the check-in and choice procedure with fairly high fidelity, deviations from the staff management protocol and confounds during the third phase restrict the conclusions. Nonetheless, the results of the study are optimistic regarding both the implementation and benefits of a staff management system in a group home setting.

The implementation of the staff management system in phase B increased consumer engagement in all three homes by an average of 23.0, 6.0, and 13.0 percentage points over baseline in homes 1, 2, and 3, respectively. The average number of activities consumers engaged in also increased, as did positive consumer affect. With the exception of the increase in consumer engagement in home 1, the increases were not as pronounced as in previous studies (Engelman et al., 1999; Wilson et al., 2006), but they do indicate that consumers can benefit from this type of staff management system. In addition, these increases corresponded to a high percentage of correct implementation of the check-in and choice procedure steps by staff in home 1 (average of 79%) and increases in the percentages in homes 2 and 3 (average increases of 37.0 percentage points and 11.0 percentage points, respectively, over baseline). Thus, the increases in appropriate consumer engagement can be attributed to the changes in staff behavior.
In phase C, the effects of supervisor observation and feedback regarding the staff’s implementation of the check-in and choice procedure were isolated. This was a unique feature of the study, designed to determine whether this more targeted and immediate feedback would increase the extent to which staff implemented the procedure correctly and, in turn, whether any increases would be accompanied by further increases in appropriate consumer engagement. Past staff management systems included this type of supervisor observation and feedback as one of several components (Green et al., 1991; Parsons et al., 1989). It was examined separately in this study because it is a very time consuming task for supervisors and thus it is reasonable to determine whether its benefits outweigh the extra work.

In phase C, the staff’s average percentage of correct implementation increased slightly (increases averaged 5.0, 7.0, and 9.0 percentage points over phase B in homes 1, 2, and 3, respectively) and variability decreased. However, these changes were not accompanied by reliable increases in appropriate consumer engagement. Unfortunately, these data are not conclusive because of confounds in homes 1 and 2 and a violation of protocol in home 3. In home 1, the favorite activity of the consumers, the Wii, broke at the beginning of the four-week phase, probably accounting for the average decrease in appropriate consumer engagement. In home 2, the death and funeral of a consumer disrupted sessions during two of the five weeks. In home 3, although average appropriate consumer engagement increased, it was trending down at the end of the study. Additionally, changes in the behavior of the DCS in home 3 cannot be attributed to more targeted and frequent feedback. Only one DCS and two consumers participated in the study in home 3 (the broader implications of this for the study are discussed in greater
detail later). Although the supervisors conducted 100% of the observations, the DCS reported in the final survey that the supervisors never gave her feedback after the observations. She also said, however, that she noticed the longer presence of the supervisors during the leisure periods, which probably accounts for the increase in the percentage of check-in steps that she completed correctly during this phase. This type of reactivity is not uncommon in human service research (Brackett, Reid, & Green, 2007; Howard, Burke, & Allen, 2013; Mowery, Miltenberger, & Weil, 2010).

The intervention to increase consumer engagement was designed for staff to check-in on consumers, help them start an activity, and then move on to another consumer. This procedure worked well in home 1, where the consumers were able to independently engage with leisure items once they were made available. In home 2, baseline levels of appropriate engagement were quite low. The consumers in this home had several physical impairments in addition to their developmental disabilities. When staff would check-in and offer choices to consumers in phase B and C, the consumers often started the activity but were unable to continue it, unless the activity was listening to music or watching TV. Thus, DCS in home 2 were consistently trying to engage the consumers in new activities, but once the DCS had to attend to another consumer, the consumer would stop the activity. This contributed to the wide range of different activities in home 2, but the overall low levels of engagement. In home 3, one of the two participating consumers also had multiple physical impairments; however, because the staff member who was assigned to them had worked with them in the past, she had already established a routine whereby she could provide more assistance to the consumer who needed it. During a follow-up meeting, the program directors and the author
discussed the fact that many of the consumers required more assistance to engage in leisure activities than originally anticipated when the homes were selected for the study.

Unfortunately, many adults with developmental and cognitive disabilities are not taught appropriate leisure skills. Thus, the check-in and choice procedure used in this study may be challenging to implement with success if consumers are not staffed one-to-one. In the one previous study conducted with adults with developmental disabilities, one staff member was assigned to assist each participant (Wilson et al., 2006). Also, in the current study, multiple staff conducted the procedure with multiple consumers. In the Wilson et al. study (2006), only one to three staff members implemented the procedure with any one consumer. Thus, not only did staff have more opportunities to determine the type and extent of assistance required for each consumer, the consistency of the staffing may have influenced the way in which the staff and consumers interacted with each other.

As indicated by the treatment integrity data, DCS were able to implement the check-in and choice procedure quite well. Correct implementation averaged 72% and 79% in phase B and C, respectively, across the three homes. Engelmann et al. (1999) did not record the integrity with which staff (CNAs) implemented the check-in and choice procedure with their participants (five older adults with dementia). Wilson et al. (2006) reported that their staff implemented the choice procedure during a high percentage of the relevant intervals (an average of 99%, 73%, and 99% for staff that worked with three participants) but did not report the percentage of procedural steps completed correctly. Thus, no direct comparison can be made to the current study with respect to treatment integrity. Regardless, at least three factors could account for the high percentages
reported by Wilson et al. First, as indicated above, staff implemented the procedure one-on-one with consumers. Second, a “dedicated” observer was present for all sessions; that is, an observer, visible to the staff member, observed only that staff member as he or she interacted with one participant. Third, all sessions were conducted in the consumer’s own home or apartment, which could have also increased the saliency of the observer.

As stated in the Results section, the choice procedure was the step that the DCS most frequently omitted. When asked about this after the study was over, the DCS reported that they were comfortable checking in with the consumers and talking to them, but they were not comfortable offering choices because they “felt bad” interrupting or disturbing the consumers, particularly when consumers appeared to be “content” not engaging in activities. DCS also stated that they knew the preferred activities of consumers, so they did not have to offer choices; rather, they only had to provide access to those activities (e.g., turn on music or the television).

In a group home setting, offering choices every 15 minutes may be too frequent. The current study was specifically designed to increase leisure, which was why the choice procedure was included. However, similar benefits might occur if DCS simply checked-in and interacted with consumers every 15 minutes without offering choices. This possibility is supported by the fact that in the current study, the difficulty of measuring consumer affect notwithstanding, positive consumer affect increased across the study and did not systematically covary with increases in appropriate consumer engagement. Future research should examine the relative effects of a check-in procedure with and without choice procedures. Future research could also examine the relative
effects of conducting the check-in and choice procedure at various time intervals (i.e., every 15 minutes, every 30 minutes, etc.).

Because some staff reported that the choice procedure was aversive, future research could also implement procedures that might reduce its aversiveness and, in addition, attempt to identify the reasons why staff may find it aversive. For example, the choice procedure was a new procedure for staff, whereas checking-in and interacting with consumers were core functions of their jobs. Thus, DCS may have needed more supervisory support (feedback and praise) to implement the choice procedure, particularly at the beginning. Future research could also examine the consequences that followed the choice procedure. It is possible that the consumers’ responses (or lack thereof) either punished or extinguished offering choices. It is also possible that the time it took to offer the choices was not offset by noticeable differences in appropriate consumer engagement or consumer affect when consumers selected different activities (that is, consumers may have appeared to be just as “happy” doing the same activity over and over again). Finally, it is possible that when consumers selected a new activity, they required more assistance, making it more difficult for DCS to check-in with other consumers.

Future research should continue to examine social validity for staff management programs. Only the staff in homes 1 and 3 completed surveys, and while 62% of the staff (8 of 13) completed the first survey that was administered after phase B, only 31% (4 of 13) completed the second survey that was administered after phase C. On the first survey, although respondents indicated that their consumers were more actively engaged, the check-in procedure was relatively easy for them to do, and they enjoyed using the
procedure, they did not feel that receiving feedback about consumer engagement was useful or that the reward drawings motivated them to use the check-in procedure. Further, when asked whether they liked the program overall, ratings averaged only 2.89/5.00. Ratings were higher on the second survey, with ratings averaging 3.25 or higher on each item. Respondents indicated that the supervisor feedback helped them implement the check-in procedure and that they liked receiving the feedback. The overall program ratings were considerably higher on the second survey, averaging 3.50. However, as indicated above, only four staff returned the second surveys, thus no definitive conclusions are possible. Regardless, there were several interesting written comments on the survey. Reactions to the reward drawing were mixed. Some DCS felt that the reward drawing was not necessary; that increased consumer engagement and enjoyment were enough of a reward. Others felt that the rewards should be of higher value (over $5) or more frequent (weekly instead of monthly). These latter comments should be taken into account when implementing reward drawings. The most common written comment was that while they enjoyed the positive interactions with consumers and finding new things they enjoyed, the frequency of the sessions was too great. This could help explain why the procedures were not continued after the study ended: Even though staff saw the benefits to the consumers, the procedures were too labor intensive. Sessions were conducted two hours a day, once in the morning and once in the afternoon. In this type of setting, fewer leisure periods should be considered. Additionally, as suggested earlier, the check-in and choice procedure could be modified to require less effort.

One of the main reasons for conducting this study was to assess whether group home staff could, independently, implement a staff management system that would
increase consumer engagement. The study was designed so that the group home 
supervisors would be the change agents for the DCS. The PCs and APCs were asked to 
collect and graph the consumer data used to provide feedback to the DCS, conduct the 
reward drawings with minimal assistance from the author, and, in the last phase, observe 
each DCS at least once a week, providing more immediate feedback on their 
implementation of the check-in and choice procedure. In addition, the PCs were asked to 
email the DCS feedback graphs to their supervisors (the program directors) who were, in 
turn, asked to comment on them and return them to the PCs.

Although there was an increase in appropriate consumer engagement and DCS 
were able to implement the choice and check-in procedure, there was considerable 
variability across homes and supervisors with respect to the extent to which the program 
directors, PCs, and APCs completed the various components of the program. The 
program was implemented as designed in home 1, where both the program director and 
PC were very involved, as reflected in the treatment integrity data. Additionally, the PC 
sent frequent updates to the author by email and the program director attended two of the 
three reward drawings. In home 2, the PC repeatedly expressed enthusiasm for the study, 
but did not complete a high percentage of the tasks despite repeated prompting by the 
author. During the final phase, supervisors completed only 18% of the DCS observations, 
which is no doubt partially due to the death of a consumer. However, the observation 
forms sent to the author also revealed that some staff were observed only once during the 
four-week period, rather than once a week. Further, the PC told the author that the 
program director did not prompt the PC to complete any of the tasks related to the staff
management system, although the program director did attend the first of the three reward drawings.

In home 3, implementation of the procedures deviated significantly from the planned design of the study. First, while 5-6 consumers and 9-12 DCS participated in the study in homes 1 and 2, as anticipated, as indicated earlier, only two consumers and one DCS participated in the study in home 3, reducing the generality of the data. Before the study, the program director predicted that multiple consumers would be likely to participate, but only two chose to do so. The same DCS was always assigned to them during the leisure periods. Although supervisors completed a relatively high proportion of the walk-arounds (67%), the PC developed only 29% of the feedback graphs during the study. More significantly, the DCS reported that she had not seen any of the graphs; thus she did not receive weekly feedback as planned. Similarly, as indicated earlier, although the supervisors conducted 100% of the observations during phase C, the DCS reported that the supervisors never gave her feedback after the observations. The reward drawings also deviated from the design of the study in this home. First, only one staff member was eligible for the drawing and, thus, as long as she met the goal, she received the prize. Also, because of this, the prizes were given to her privately, not at the regularly scheduled staff meeting. Additionally, neither the PC nor APC was present for any of the reward distributions. Because of the change to the protocol, the author scheduled times with the supervisors to assist them with the reward procedure; however, when she arrived for the three scheduled meetings, they did not attend. Therefore, the author reviewed the data with the DCS and gave her the rewards, when appropriate. The reasons for the protocol deviations by the supervisors are not known. However, in this home the benefits
were restricted to only two consumers, whose appropriate engagement was already quite high (an average of 63% during baseline). Thus, the deviations may be due to the fact that the perceived benefits were not sufficient to maintain the requested activities given competing responsibilities that benefitted more consumers and staff.

The staff management system was discontinued in all three homes after the study was over, despite favorable reactions from the PCs and APCs in two of the three homes. For example, in an after-study meeting, the home 1 PC stated that the effects of the program were very positive and the home “seemed more like a home because residents were interacting with each other and the staff.” Similarly, the PC and APCs in home 2 stated that they were very happy with the procedures and their effects. They also indicated that they were exploring ways to have less frequent but more “robust” activity times during which staff could provide more support for consumers to engage in activities. To the author’s knowledge, this was not done. Interestingly, while home 3 supervisors discontinued the program, the (one) DCS who participated in that home stated that she would continue to use the check-in and choice procedure because of its obvious benefits to the consumers. Again, the author does not know whether this occurred. Ultimately, although most of the supervisors and the staff felt that the program benefitted the consumers, it appears to have been too labor-intensive for both staff and supervisors as designed, particularly given that the program was not part of the formal organizational requirements by the host agency, but was instead implemented solely for research purposes.
Weaknesses

The main weakness in the study was the small number of participants in home 3. This may account for the significant protocol deviations by the supervisors in this home because benefits of the program were restricted to only two of the consumers. Additionally, the small number of participants decreases the extent to which results can be generalized to a typical group home with six to eight consumers, which was one of the major goals of the study.

A second weakness relates to the unforeseen complications that occurred in phase C in all three of the homes that prevented conclusions about the effects of more targeted and immediate supervisor feedback. As discussed earlier, in home 1, the primary activity the consumers had selected in the past (the Wii) broke at the beginning of phase C. This likely contributed to the lower appropriate engagement in this phase. In home 2, the death of a consumer during the third week and the subsequent funeral the fourth week led to many unavoidable disruptions to the routines of the supervisors, staff, and consumers and cancelled sessions. Treatment integrity for both the DCS and supervisors decreased for two weeks and may have been affected for the remaining week of the study as well. Consumer engagement did not appear to be as affected as treatment integrity, but it is impossible to know what consumer engagement would have been had treatment integrity not declined during this period. In home 3, as discussed earlier, although the supervisors observed the performance of the DCS, they did not give her feedback.

Another weakness was the sustainability of the system. Before the study, the author and the upper management of the host agency determined the goals of the study based on upper management’s desire to increase (a) the staff’s interaction with consumers
and (b) consumer engagement. Thus, the study’s procedures were designed so that the group home staff could implement and maintain them without assistance from researchers. Unfortunately, while the host agency was very supportive of the research, its upper management had no desire to continue the system once the study was over. The program directors were also very supportive of the research; however, from a management perspective, the program directors in homes 2 and 3 did not monitor or follow up with the PCs when tasks were not completed. When a follow-up meeting was conducted to discuss how the agency might implement the system on a broader scale, as indicated earlier, neither the program directors nor the PCs were interested in continuing the system, even though the author offered to scale it back to make it more manageable for the homes (e.g., fewer sessions per week, less feedback, etc.). If a less effortful system had been implemented initially, it might have been rated higher by the DCS and viewed more favorably by supervisors and management. Also, if the goals of the study or the supervisory responsibilities had been embedded in the formal management system of the host agency, the system might have been more sustainable.

**Strengths**

Despite weaknesses, the study had several strengths. First, many measures were collected that are not often reported in organizational behavior management research. In the most recent review of this body of research, VanStelle et al. (2012) noted that only 20% and 26% of studies included social validity data on the dependent variable and independent variable, respectively. The social validity surveys in the current study targeted both. VanStelle et al. also reported that only 27% of studies included data on treatment integrity. In the current study, not only did the author collect treatment integrity...
data on the behavior of the DCS, but she also collected it on the behavior of the PCs and APCs.

The isolation of supervisor observation and feedback was a unique component of the current study. Although, as discussed in the preceding section, confounds prevented conclusions, it is hoped that future research will address the supplemental effects of this procedure, given how effortful it is for supervisors.

Finally, the study extended the limited research on procedures to increase the leisure activities of adults with developmental disabilities. Unlike previous studies, this study examined the feasibility and effectiveness of implementing the check-in and choice procedure in a group home setting with multiple consumers and staff. The ultimate goal of this research is to increase the quality of life for adults with developmental disabilities who live in these setting by increasing the reinforcers available for their behavior. It is important that this, and similar, research continue.

In summary, the staff management system did increase appropriate consumer engagement and decrease inappropriate engagement. Additionally, staff were able to implement the check-in and choice procedure with multiple consumers in a group home setting. Further, many new research questions were suggested by the results of this study. Future researchers should schedule fewer sessions to increase staff acceptance and sustainability. Researchers should also compare the effectiveness of different versions of the check-in and choice procedure. Specifically, researchers should examine how often the staff should check-in and offer choices to the consumers and whether the check-in procedure alone would increase appropriate consumer engagement. In order to determine why staff may fail to implement the choice procedure, a more detailed analysis of its
consequences could be examined (i.e., how consumers respond to the offers, whether the selection of a new activity by a consumer makes it more difficult to assist other consumers, etc.). Research is also needed on how to teach or increase leisure skills to adults who lack these skills, particularly in environments where the staff to consumer ratio is not one-to-one. The check-in and choice procedure would be easier for staff to implement and maintain if consumers only had to be prompted and reinforced for independently engaging in such activities. Finally, supervisor feedback and its role in a staff management system should be further evaluated. It is hoped that the results of the current study will serve as a catalyst for other researchers.
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Appendix A

HSIRB approval letter
Date: July 24, 2012

To: Alyce Dickinson, Principal Investigator
   Jean Koerber, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number 10-11-02

This letter will serve as confirmation that the change to your research project titled “Implementation of Staff Management to Increase Consumer Engagement in Group Homes” requested in your memo received July 23, 2012 (to extend duration of study to 16 weeks; revise assent and consent documents to reflect this change) has been approved by the Human Subjects Institutional Review Board.

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: November 17, 2012
Appendix B

Site approval letter
May 16, 2011

Research Compliance Coordinator, HSRIB
Western Michigan University
251W Walwood Hall (East Campus)
Kalamazoo, MI 49008-5456

To Whom It May Concern:

Alyce Dickinson and Jeann Koerber have proposed the project entitled “Implementation of a staff management system to increase engagement in group homes” to Residential Opportunities, Inc. (ROI). We have approved this project to be conducted at three group homes serviced by ROI in Kalamazoo, Michigan, pending approval from Western Michigan University’s Human Subjects Institutional Review Board and Kalamazoo Community Mental Health’s Research Review Board. ROI’s Research Committee has approved the study.

The purpose of this study is to implement and evaluate a staff management system to increase consumer engagement in group homes by scheduling two one-hour leisure periods a day, Monday through Friday, and asking staff to interact with each consumer about every 15 minutes during these times. Direct care staff will receive feedback from our program coordinators about the engagement of consumers and their performance when interacting with consumers. The facilitation of consumer engagement is part of the job responsibilities of the direct care staff and part of the normal services we provide to our consumers.

Consumer engagement data and direct care staff performance data will be collected by the Western Michigan University research team and the supervisory staff (program coordinators and assistant program coordinators) at the selected group homes, two times a day for one hour each, five days a week (Monday through Friday) for approximately 12 weeks. The data collected by our supervisory staff will be agency data and the data collected by WMU researchers will be research data.

Consumer participation is completely voluntary and all consumer information will be kept confidential by WMU researchers. Direct care staff will be required to implement the check-in procedure with consumers, but will be able to decide whether WMU researchers can collect data about their performance for research purposes. The identities of the direct care staff who agree to allow WMU researchers to collect data about their performance and those who do not agree will be kept confidential by WMU researchers. Only group data will be reported for both consumers and direct care staff to avoid identification of any particular consumer or staff member.
All research data collected by WMU researchers will be secured in a locked filing cabinet in a locked room (Dr. Dickinson's research laboratory). Data forms used to collect information about the leisure activities of consumers will not contain any identifying information. Similarly, data forms used to collect information about how direct care staff interact with consumers will also be kept confidential and will not contain any identifying information.

Our supervisory staff will collect information about consumer engagement and direct care staff interaction with consumers during the scheduled leisure periods. Because our supervisory staff will be collecting these data, these data belong to ROI. Our supervisory staff will use this information to provide feedback to our direct care staff. During the last 2-4 weeks of the study, once a week, our supervisors will observe the direct care staff when they interact with a consumer during one of the leisure periods. Only the direct care staff member and his or her immediate supervisor will see this individualized feedback. All of the information collected to provide feedback to the staff will be used only to help our direct care staff facilitate consumer engagement better. ROI will not use the information for evaluation purposes.

No direct care staff or supervisory staff will be placed in employment jeopardy from the information collected during this study. Similarly, should the confidentiality of the direct care staff be breached, they will not be placed in employment jeopardy for agreeing or declining participation.

We may terminate this study at any time without agreement from the researchers, without any repercussions or penalties. The researchers may also terminate the study at any time without our agreement, without any repercussions or penalties.

We support the project protocol and have had the opportunity to ask questions and give suggestions. Additionally, we approve the use of research data collected by Alyce Dickinson and Jeana Koeber for future analysis, publication, and presentation purposes.

Sincerely,

Becky Lopez
Chief Operating Officer
Appendix C

Community Mental Health approval letter
MEMORANDUM

To:        Jeana Koeber, MA, BCBA
From:      Jeff Patton, KCMHSAS Executive Director
Date:      September 20, 2011
Subject:   Research Proposal: Western Michigan University Department of Psychology-Implementation of a staff management system to increase consumer engagement in group homes.

I have reviewed the materials regarding your proposed research project. Based on this review and the review of the Recipient Rights Research Review Committee, and their subsequent approval, I give my approval for this project to proceed.

[Signature]
Jeff Patton, KCMHSAS Executive Director
Appendix D

Consumer engagement data recording form (researchers)
When the program sounds, observe the consumer for 10 seconds. When the program instructs you to record, record the following data:

**Engagement. Circle one letter in the space** - If the consumer is engaged for any of the 10 seconds, circle A, unless the consumer has inappropriate engagement. If the consumer engages in appropriate and inappropriate engagement in the 10 seconds, circle I.

**A - appropriate engagement:** consumer is participating in an activity that is useful in maintaining independence, quality of life, or physical or mental health (e.g., drawing, cooking, setting table, talking with staff) *Watching television* will be considered engagement only when: consumer is oriented at television and observable facial movements in response to the show occur or the consumers eyes are tracking the movement on the TV; observable motor movement associated with the activity such as using the remote to adjust the volume or change channels or the television is tuned to a channel playing music and the participant was making motor movements such as clapping, singing or rocking in apparent correspondence to the music.

**R – receiving care:** consumer is receiving care from staff that they could not do independently including, moving to a different location in the home, receiving medication, or being fed from a tube.

**I - inappropriate engagement:** consumer is involved in maladaptive behavior (e.g., aggression, elopement, repetitive inappropriate vocalizations).

**N - no engagement:** consumer is not participating in any form of activity (e.g., sitting alone, sleeping, and staring blankly). Listening to conversation will be considered no engagement. If a consumer is watching television but does not meet the criteria listed above it will be considered no engagement.

**NP – not present:** consumer is not present during the interval (e.g., out of the sight of the observer, in his/her room, in the bathroom)

**NH – not home:** consumer is away from the home during the interval (e.g., at an appointment, at day program)

**IF YOU CIRCLE A, RECORD THE FOLLOWING:**

i.) **Activity:** Briefly record the activity (e.g., cards, talking).

ii.) **Affect: Circle one letter in the space:**

   P – positive: consumer is smiling, laughing, seems to be in a positive mood

   N - negative: consumer is yelling, seems upset, overall negative mood

   U – undetermined: consumer is in a neutral mood, cannot see consumer, cannot determine.

1) When the program instructs you to observe, observe the next consumer listed. Record the data listed above when instructed. Repeat for each consumer for the entire hour.
2) At the end of the session, record the number of consumers present during the observation at the top of the form. If a consumer was present for a portion of the observation, include that consumer in the total count.

3) Tally up the data as indicated on the last page of the data sheet.
Start the session and state to each consumer in common living area: Hi my name is ______. Do you want staff to interact with you about every 15 minutes during the leisure time today? It is OK if you don’t, someone will ask you again before the next one. If you want to and then want to stop, you can tell staff during the leisure time and that is OK too.”

<table>
<thead>
<tr>
<th>Consumer</th>
<th>Present at the beginning of session?</th>
<th>Response to On-going consent:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes / No</td>
<td>Wants to participate / Does not want to participate / No response</td>
</tr>
<tr>
<td></td>
<td>Yes / No</td>
<td>Wants to participate / Does not want to participate / No response</td>
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<td>Yes / No</td>
<td>Wants to participate / Does not want to participate / No response</td>
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<td></td>
<td>Yes / No</td>
<td>Wants to participate / Does not want to participate / No response</td>
</tr>
<tr>
<td>Observer</td>
<td>Date:</td>
<td>Number of consumers present:</td>
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<td>----------</td>
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</tr>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interval</th>
<th>Engagement</th>
<th>Activity</th>
<th>Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interval 1</td>
<td>A I N NP NH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interval 2</td>
<td>A I N NP NH</td>
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<tr>
<td>Interval 3</td>
<td>A I N NP NH</td>
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<td>Interval 4</td>
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<tr>
<td>Interval 12</td>
<td>A I N NP NH</td>
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</tr>
</tbody>
</table>

Note: ENG = Engagement, AC = Activity, AF = Affect, P = Playful, N = Neutral, U = Unresponsive
Appendix E

Informed consent document for guardians
Western Michigan University
Department of Psychology
Informed Consent Document for Guardians

Principal Investigator: Alyce M. Dickinson, Ph.D.
Student Investigator: Jeana L. Koerber, MA
Title of Study: Implementation of a staff management system to increase consumer engagement in group homes.

Your child/ward has been invited to participate in a research project titled “Implementation of a staff management system to increase consumer engagement in group homes.” This project will serve as Jeana L. Koerber’s doctoral dissertation. This consent document will explain the purpose of this research project and will go over all of the time commitments, the procedures used in the study, and the risks and benefits of participating in this research project. Please read this consent form carefully and completely and please ask any questions if you need more clarification.

What are we trying to find out in this study?
We are trying to determine if the amount of time consumers spend engaging in leisure activities in their group home will increase if specific times of the day are scheduled for leisure activities and direct care staff interact with consumers about every 15 minutes to help them start activities or help them engage in an activity. Two one-hour leisure periods will be scheduled each day, Monday through Friday. During these times, the direct care staff of the group home will check with each consumer about every 15 minutes to help him or her start an activity or engage in an activity. By scheduling these times and asking the direct care staff to interact with each consumer about every 15 minutes, consumers may spend more time engaging in leisure activities and may find new activities that they enjoy doing.

Who can participate in this study?
Residential Opportunities, Inc. (ROI) will select three group homes where the study will be implemented. The consumers who reside in these homes will be eligible to participate in the study. If consumers can’t attend some of the scheduled leisure periods due to work or other activities, consumers can still participate in the study. Also, if, on any day, a consumer does not want to attend one of the leisure periods for whatever reason, he or she can still participate in the study.

Where will this study take place?
The study will take place in three group homes that are selected by the chief executive officer and program directors of ROI. The study will be conducted in the group homes of the consumers. Consumers will not have to leave their home.

What is the time commitment for participating in this study?
Leisure periods will be scheduled two times a day, each for one hour, Monday through Friday. One will be scheduled in the morning and one will be scheduled in the afternoon. The study will last about 16 weeks.
What will your child/ward be asked to do if he or she participates in this study?
Researchers will first identify activities that your child/ward enjoys doing. To do this, researchers will observe what leisure activities your child/ward engages in during the first part of the study, will ask your child/ward what he or she likes to do, and will ask the direct care staff at your child/ward’s home what he or she likes to do. Researchers may also ask you. Based on the types of things identified, researchers will also select additional activities that he or she might like to do. Researchers will then determine which of the activities your child/ward prefers. If your child/ward can tell researchers which tasks he or she prefers verbally, then they will present two of the activities together and ask your child/ward which one he or she likes best. This procedure will be repeated for all of the activities identified. If your child/ward is not able to tell researchers which activity he or she likes best when they are presented in this manner, then the researcher will put all of the activities on a table and ask your child/ward to pick one. If the activity cannot be placed on a table (for example, watching TV or swinging on a swing set), a picture of the activity will be substituted for the actual activity. That activity will then be removed from the set of activities and your child/ward will be asked to select another activity. This procedure will be repeated until your child/ward has selected all of the activities or does not choose any more activities. If your child/ward does not respond using one of these procedures, then researchers will put two activities on the table and ask your child/ward to select the one he or she likes best. This procedure will be repeated for all of the identified activities.

After identifying activities that your child/ward likes to do, researchers will invite your child/ward to attend the scheduled leisure periods. During these leisure periods, direct care staff will check with your child/ward about every 15 minutes. If your child/ward is engaged in an activity, the direct care staff will praise your child/ward and offer assistance. If your child/ward does not ask for assistance, then the direct care staff will return in about 15 minutes, repeating this procedure. If your child/ward is not engaged in an activity, the direct care staff will offer your child/ward a choice of activities and help your child/ward do the activity, if relevant. If your child/ward does not want to engage in any of the activities that are offered, the direct care staff will respond neutrally, saying something like, “OK, I’ll be back in a few minutes to see if you want to do something then,” and will check with your child/ward about 15 minutes later and repeat this procedure.

What information is being measured during the study?
Researchers will collect information about what your child/ward does during the scheduled observation periods. They will collect information on whether your child/ward engages in a leisure activity, what activity he or she does, whether he or she seems to be enjoying the activity, and whether he or she engages in inappropriate behavior. Researchers will also collect information about how the direct care staff interact with your child/ward, recording whether the direct care staff correctly implement the choice procedure and check-in procedure. Researchers will only observe the activities of your child/ward if he or she is in a common living area in the home. Researchers will not observe the activities of your child/ward if he or she is in his or her bedroom or in a private area of the home.
The program coordinators and assistant program coordinators in your child/ward’s home will also be counting the number of consumers that are engaged in leisure activities during the scheduled leisure periods and collecting information about how the direct care staff interact with consumers.

**What are the risks of participating in this study and how will these risks be minimized?**

One risk is a breach of confidentiality; that is, someone finding out that your child/ward participated in the study. We will do many things to minimize this risk. First, before the study begins, all researchers will undergo a background check and complete ethics training that includes confidentiality procedures. Next, your child/ward’s name will not be printed on any forms used in the study. Instead your child/ward will be randomly assigned a letter. The master list of the letters and consumer’s names will be kept in a locked cabinet in a locked room (Dr. Dickinson’s research laboratory) at Western Michigan University. All forms filled out by researchers will be kept in another locked cabinet in Dr. Dickinson’s research laboratory. On the forms that the program coordinator and assistant program coordinator use as part of the study, your child/ward’s name will also not be listed. They will be kept and stored per the policies of ROI.

There are also risks that are typical risks when your child/ward engages in leisure activities. Direct care staff will minimize any injury to your child/ward per the training they receive at ROI.

Another risk is that the direct care staff may restrict their facilitation of leisure activities to the scheduled leisure periods. This risk will be minimized by instructing direct care staff to continue to facilitate leisure activities during the rest of the day as they have done before.

**What are the benefits of participating in this study?**

First, there will be scheduled times for the direct care staff to interact with your child/ward each day, Monday through Friday. This may increase the amount of time that the direct care staff interact with your child/ward in his or her home. Second, direct care staff will help your child/ward to select activities that he or she may enjoy and assist him or her with engaging in the activity. This may increase the amount of time that your child/ward spends doing things that he or she enjoys. Third, direct care staff may show your child/ward new activities that he or she has not done before. This may increase the number of different types of activities your child/ward engages in. The results of this study may also benefit the staff of other group homes and consumers who live in group homes.

**Are there any costs associated with participating in this study?**

There are no costs that you or your child/ward would incur during this study. However, the study is quite long, and thus would take up the time of your child/ward, up to 2 hours a day for approximately 16 weeks.

**Is there any compensation for participating in this study?**
There is no compensation for you or your child/ward if your child/ward participates in the study.

**Who will have access to the information collected during this study?**
The researchers from Western Michigan University will have access to the information collected during the study. The direct care staff, assistant home coordinator, program home coordinator, and program director of your child/ward’s group home will also see information that is collected. As indicated above, the forms filled out by the researchers will not contain any information that could identify your child/ward. Your child will be identified only by a letter that is assigned to him or her. These forms will be kept in a locked filing cabinet in a locked room (Dr. Dickinson’s research laboratory) at Western Michigan University. Your child/ward’s name will not be written on forms completed by ROI staff as part of the study. During and after the study, these forms will be kept in your child/ward’s group home and stored per the policies of ROI.

The results of the study will be summarized in Jeana Koerber’s doctoral dissertation. The results may also be presented at academic conferences and published in academic journals. Your child/ward’s name will not be used and data from all of the participants will be grouped together. Thus, your child/ward’s data will never be presented alone.

**What if you want to stop your child/ward’s participation in this study?**
You can choose to have your child/ward stop participating in the study at anytime for any reason. You and your child/ward will not suffer any prejudice or penalty if you decide to stop your child/ward’s participation. You and your child/ward will continue to receive the same services provided by ROI as in the past.

Researchers can also decide to stop your child/ward’s participation in the study without your consent.

If you have any questions before or during the study, you can contact Jeana Koerber, at 269-352-4015 or jeana.koerber@wmich.edu. You can also contact the primary researcher, Alyce M. Dickinson, at 269-387-4473 or alyce.dickinson@wmich.edu. In addition, you may contact the Chair of Western Michigan University’s Human Subjects Institutional Review Board at 269-387-8293 or the Vice President for Research at Western Michigan University at 269-387-8298.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board (HSIRB) as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in this study if the stamped date is older than one year.

-----------------------------------------------------------------------------------

I have read this informed consent document. The risks and benefits have been explained to me. I agree to allow my child/ward take part in this study.
Please Print Your Child/Ward’s Name

Please Print Your Name

Guardian’s signature __________________ Date

Researcher's Signature __________________ Date
Appendix F

Informed consent document for consumers
Western Michigan University
Department of Psychology
Informed Consent Document

Principal Investigator: Alyce M. Dickinson, Ph.D.
Student Investigator: Jeana L. Koerber, MA
Title of Study: Implementation of a staff management system to increase consumer engagement in group homes.

We are doing a research study. A research study is a special way to find out about something. We want to find out if we can help your staff work with you better and help you do fun things.

You can be in this study if you want to. If you want to be in this study, you will be asked to do fun activities two hours a day, Monday through Friday, if you are at home and want to. Staff will help you find things to do and help you do them during these times. You will let Western Michigan University researchers ask you about things you like to do and watch you do them.

We want to tell you about some things that might happen to you if you are in this study. You have a right to privacy but someone may find out you were in the study. We will try to prevent this by telling people involved in the study that they cannot tell others. You might get hurt while you are doing fun things. Staff will help you so you don’t get hurt. You will let people from Western Michigan University watch you and take notes about you. We will make sure they do not talk about you and they will not use your name. They will use a letter for your name.

If you decide to be in this study, some good things might happen to you. You will get time to be with staff two hours a day, Monday through Friday, if you are home and not doing something else. Staff will help you find new things to do. Staff will help you do things you like to do. You might start doing things you like to do more. You might find new things you like to do. But we don’t know for sure that these things will happen. We might also find out things that will help other people some day.

The study will last for about 16 weeks.

When we are done with the study, we will write a report about what we found out. We won’t use your name in the report.

You don’t have to be in this study. You can say “no” and nothing bad will happen. Staff will work with you and help you like they do now. Your day to day activities will stay the same. If you say “yes” now, but you want to stop later, that’s okay too. No one will be mad at you, and nothing bad will happen to you if you want to stop. All you have to do is tell us you want to stop.
If you have any questions, you can ask me now. If you have any questions later you can ask me or you can call me, Jeana Koerber, at 269-352-4015 or Alyce Dickinson at 269-387-4473. I work for Alyce Dickinson.

The stamped date and signature of the board chair in the upper right corner means this consent document is approved for use for one year by the Human Subjects Institutional Review Board. Do not participate if the stamped date is more than one year old.

If you want to be in this study, please sign your name.

Name of the participant

________________________

Participant’s signature

Date

☐ Participant consented verbally

Researcher’s signature

Date

☐ Participant consented verbally

Witness’s signature

Date

Examples of consent: 1) the participant signs his/her name; or 2) the participant says “yes”, “uh-huh”, or some other phrase that is recognized as willingness to participate; or 3) the participant smiles, nods, or makes other gestures that suggest interest in participating. If the participant consents, record on the consent document the date, the participant’s name, the method in which s/he provided assent, sign, and have the researcher present sign this paper as a witness.
Appendix G

Written assent document for consumers
Western Michigan University  
Department of Psychology  
Assent Document

**Principal Investigator:** Alyce M. Dickinson, Ph.D.  
**Student Investigator:** Jeana L. Koerber, MA  
**Title of Study:** Implementation of a staff management system to increase consumer engagement in group homes.

We are doing a research study. A research study is a special way to find out about something. We want to find out if we can help your staff work with you better and help you do fun things.

You can be in this study if you want to. If you want to be in this study, you will be asked to do fun activities two hours a day, Monday through Friday, if you are at home and want to. Staff will help you find things to do and help you do them during these times. You will let Western Michigan University researchers ask you about things you like to do and watch you do them.

We want to tell you about some things that might happen to you if you are in this study. You have a right to privacy but someone may find out you were in the study. We will try to prevent this by telling people involved in the study that they cannot tell others. You might get hurt while you are doing fun things. Staff will help you so you don’t get hurt. You will let people from Western Michigan University watch you and take notes about you. We will make sure they do not talk about you and they will not use your name. They will use a letter for your name.

If you decide to be in this study, some good things might happen to you. You will get time to be with staff two hours a day, Monday through Friday, if you are home and not doing something else. Staff will help you find new things to do. Staff will help you do things you like to do. You might start doing things you like to do more. You might find new things you like to do. But we don’t know for sure that these things will happen. We might also find out things that will help other people some day.

When we are done with the study, we will write a report about what we found out. We won’t use your name in the report.

You don’t have to be in this study. You can say “no” and nothing bad will happen. Staff will work with you and help you like they do now. Your day to day activities will stay the same. If you say “yes” now, but you want to stop later, that’s okay too. No one will be mad at you, and nothing bad will happen to you if you want to stop. All you have to do is tell us you want to stop.

If you have any questions, you can ask me now. If you have any questions later you can ask me or you can call me, Jeana Koerber, at 269-352-4015 or Alyce Dickinson at 269-387-4473. I work for Alyce Dickinson.
The stamped date and signature of the board chair in the upper right corner means this consent document is approved for use for one year by the Human Subjects Institutional Review Board. Do not participate if the stamped date is more than one year old.

If you want to be in this study, please sign your name.

______________________________________________  __________________________
Name of the participant

Participant’s signature  Date

☐  Participant consented verbally

☐  Participant consented verbally

Researcher’s signature  Date

Witness’s signature  Date

Examples of assent: 1) the participant says “yes”, “uh-huh”, or some other phrase that the staff recognize as willingness to participate; or 2) the participant smiles, nods, or makes other gestures that suggest interest in participating. If the participant assents, record on the assent document the date, the participant’s name, the method in which s/he provided assent, sign, and have the staff sign this paper as a witness.
Appendix H

Vocal assent script for consumers
My name is Jeana Koerber. I go to school at Western Michigan University. We are doing a research study. A research study is a special way to find out about something. We want to find out if we can help your staff work with you better and help you do fun things.

You can be in this study if you want to. If you want to be in this study, you will be asked to do fun activities two hours a day, Monday through Friday, if you are at home and if you want to. Staff will help you find things to do and help you do them during these times. You will let Western Michigan University researchers ask you about things you like to do and watch you do them.

We want to tell you about some things that might happen to you if you are in this study. You have a right to privacy but someone who should not know may find out you were in the study. We will try to prevent this by telling people involved in the study that they cannot tell others. You might get hurt while you are doing fun things. Staff will help you so you don’t get hurt. You will let people from Western Michigan University watch you and take notes about you. We will make sure they do not talk about you and they will not use your name. They will use a letter for your name.

If you decide to be in this study, some good things might happen to you. You will get time to be with staff two hours a day, Monday through Friday, if you are home and not doing anything else. Staff will help you find new things to do. Staff will help you do things you like to do. You might start doing things you like to do more. You might find new things you like to do. But we don’t know for sure that these things will happen. We might also find out things that will help other people some day.

When we are done with the study, we will write a report about what we found out. We won’t use your name in the report.

You don’t have to be in this study. You can say “no” and nothing bad will happen. Staff will work with you and help you like they do now. Your day to day activities will stay the same. If you say “yes” now, but you want to stop later, that’s okay too. No one will be mad at you, and nothing bad will happen to you if you want to stop. All you have to do is tell us you want to stop.

If you have any questions, you can ask me now. I need to make sure you know what I said (Check for comprehension, correct errors or repeat information if needed.)

- Will you be working with staff for one hour twice a day if you are home and want to? (yes)
- Will people from Western Michigan University ask you what you like to do? (yes)
Will you be doing things you like with staff? (yes)
Will people from Western Michigan be watching you? (yes)
Do you have to do things with staff? (no)
If you want to do things with staff sometimes but not other times is that OK? (yes)
If you say you want to work with staff and have people from Western Michigan University watch you now but don’t want to later, is it okay to stop? (yes)
Who should you tell if you want to stop? (Researchers, staff, parents, etc.)

If you have any questions later you can ask me or call me at 269-352-4015. You can also call Alyce Dickinson at 269-387-4473. I work for Alyce Dickinson.

The stamped date and signature of the board chair in the upper right corner means this consent document is approved for use for one year by the Human Subjects Institutional Review Board. Do not participate if the stamped date is more than one year old.

If you want to be in the study you can tell me now or you can tell me later. If you want to be in the study now, please tell me now.

Examples of assent: 1) the participant says “yes”, “uh-huh”, or some other phrase that the staff recognize as willingness to participate; or 2) the participant smiles, nods, or makes other gestures that suggest interest in participating. If the participant assents, record on the assent document the date, the individual’s name, the method in which he or she provided assent, sign the form, and have the staff member sign this form as a witness.

Name of the participant

☐ Participant consented verbally
☐ Participant consented with gestures

Researcher’s signature ___________________________ Date

☐ Participant consented verbally
☐ Participant consented with gestures

Witness’s signature ___________________________ Date
Appendix I

Informed consent document for direct care staff
Western Michigan University  
Department of Psychology  
Informed Consent Document for Direct Care Staff

Principal Investigator: Alyce M. Dickinson, Ph.D.  
Student Investigator: Jeana L. Koerber, MA  
Title of Study: Implementation and evaluation of a staff management system to increase consumer engagement in group homes.

With the approval of Residential Opportunities, Inc. (ROI), we are implementing a new staff management procedure in the group home where you work to determine whether it increases consumer engagement. This study will serve as Jeana Koerber’s doctoral dissertation, which is being supervised by Dr. Alyce Dickinson. Because facilitation of consumer engagement is part of the normal work duties of direct care staff, all staff will be required to participate. However, you can decide whether we can collect information about your performance in order to evaluate the effectiveness of the new procedures. This consent document will explain the purpose of this research project and will go over all of the time commitments, the procedures used in the study, and the risks and benefits of your consenting to the use of your data as part of the evaluation. Please read this consent form carefully and completely and please ask any questions if you need more clarification.

What are we trying to find out in this study?
We are trying to determine whether consumers will spend more time engaging in leisure activities if specific times of the day are scheduled for those activities and direct care staff interact with consumers about every 15 minutes to help them start activities or help them engage in them. Two one-hour leisure periods will be scheduled each day, one in the morning and one in the afternoon, Monday through Friday. Weekly engagement goals will be developed for each leisure period. If the average number of appropriately engaged consumers meets the goal, the direct care staff who worked with the consumers will be entered into a monthly reward drawing, and three staff members will receive a small reward. Near the end of the study, supervisors will begin giving direct care staff feedback on how they might improve consumer engagement. We want to see if this feedback helps staff and, in turn, increases consumer engagement.

Who can participate in this study?
ROI will select three group homes where the study will be conducted. Direct care staff in those three homes will be able to participate.

Where will this study take place?
The study will take place in the group home where you work.

What is the time commitment for participating in this study?
The study will be conducted during your regular work hours. One-hour leisure periods will be scheduled in the morning and in the afternoon, Monday through Friday.
will last about 16 weeks. Your total time commitment will depend upon your work schedule, but could be up to 160 hours if you are scheduled to work when all of the leisure periods are scheduled.

**What will you be asked to do in this study?**
Before the study begins, we will identify activities that each consumer seems to enjoy doing. Your supervisor will assign you to work with specific consumers during the leisure periods. If consumers are participating in the study, you will check with them about every 15 minutes. If they are engaged in an activity, you will praise them and offer assistance. If consumers do not ask you to help them, you will check with them again in about 15 minutes, repeating this procedure. If consumers are not engaged in an activity, then you will ask if they want to do something and if they do, you will offer them a choice of activities. If the consumer does not want to do any of the activities, you will say something like, “OK, I’ll be back in a few minutes to see if you want to do something then,” and repeat this procedure about 15 minutes later. We will train you to do this. All training will be done during your scheduled work hours.

If you are assigned to work with a consumer who is not participating in the study, you will interact with the consumer as you normally do per ROI policies.

**What will your supervisor do differently?**
During each leisure period, your program or assistant program coordinator will count the number of consumers who are engaged in leisure activities. Your program coordinator will graph these data each week and put the graph in the home’s logbook. He or she will also determine the average number of consumers who were appropriately engaged during each leisure period. If this average meets a weekly goal, all direct care staff that worked during those leisure periods will be entered into a reward drawing that will be held at your monthly staff meeting. Three names will be drawn and those staff will be able to choose a small reward item.

During the last 2-4 weeks of the study, at least once a week, your supervisor will observe you when you interact with a consumer during a leisure period. As soon as the leisure period is over, your supervisor will meet with you privately and give you feedback about your performance. You will be asked to sign a form indicating that your supervisor gave you this feedback. Because the purpose of this feedback is to help you, ROI has agreed that no one but your immediate supervisor will see the actual feedback and that it will not be used as part of ROI’s performance evaluation process.

Also, twice during the study, your supervisor will ask you if you would like to complete a survey that asks how you feel about the check-in procedure and new management system. The surveys will be voluntary and you will not be asked to provide your name if you decide to complete them.

Because your ROI supervisor will be collecting the above data, they are ROI data, not research data. Thus, even if you decide not to participate in the evaluation of the
management system, ROI will collect the above information and ask if you want to complete the surveys.

**What information are we measuring during the study?**
We will measure what the consumers who are participating in the study do during the scheduled leisure periods. We will also collect information about whether you are able to implement the choice and check-in procedures correctly. We will only observe you and the consumers in common living areas in the home.

We will be using the above information to evaluate the effectiveness of the management system. If you sign this consent form, you will be giving us permission to collect this information.

**What are the risks of participating in this study and how will these risks be minimized?**
Someone may find out that you participated in the evaluation. We will minimize this risk by doing several things. First, we will not tell ROI which direct care staff participated and which did not. Second, all researchers will complete ethics training that includes confidentiality procedures. Third, your name will not be on any research data form. Instead, you will be randomly assigned a number. All research data forms will be kept in a locked cabinet in Dr. Dickinson’s research laboratory at Western Michigan University (WMU). The master list of code numbers and names will be kept in a different locked filing cabinet in Dr. Dickinson’s research laboratory. The consent document with your signature will be kept separately from the research data, in a locked cabinet in Dr. Dickinson’s office at WMU. Fourth, we are only going to report group data; you will not be singled out. Fifth, the chief operating officer of ROI has signed a letter indicating that your participation in the study will not affect your employment at ROI in any way.

There are also risks that are typical risks when you help consumers engage in leisure activities. These risks are reduced by the injury-reduction and safety training provided by ROI.

**What are the benefits of participating in this study?**
You will be contributing to the determination of whether the check-in procedure and new management system increases consumer engagement in group homes at ROI. Your contribution may affect whether ROI continues these procedures after the study is over. More generally, you will be contributing to the research on consumer engagement and staff management systems that may influence whether other group homes adopt these procedures.

**Are there any costs associated with participating in this study?**
There are no costs for participating in this study.

**Is there any compensation for participating in this study?**
There is no compensation for participating in the study.
Who will have access to the information collected during this study?
Dr. Dickinson, Jeana Koerber, and the research assistants will have access to the information collected during the study. When the results are given to ROI, presented, or published, only group data will be reported.

What if you decide during the study you do not want your data used for research purposes?
You can choose to stop participating at any time for any reason, without penalty. We can also decide to stop your participation without your consent.

If you have any questions before or during the study, you may contact Jeana Koerber, at 269-352-4015 or jeana.koerber@wmich.edu. You may also contact the primary researcher, Dr. Alyce Dickinson, at 269-387-4473 or alyce.dickinson@wmich.edu. In addition, you may contact the Chair of Western Michigan University’s Human Subjects Institutional Review Board at 269-387-8293 or the Vice President for Research at Western Michigan University at 269-387-8298.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board (HSIRB) as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in this study if the stamped date is older than one year.

I have read this informed consent document. The risks and benefits have been explained to me. I agree for researchers to use my data for research purposes.

Please Print Your Name

Staff’s signature __________________________ Date

Researcher’s Signature __________________________ Date
Appendix J

Engagement recording form for PC and APC
To be filled out twice daily by PC/APC, Monday –Friday.

During each scheduled leisure time, walk throughout the session and count the number of consumers’ appropriately engaged (see the definitions below). Note the date and time of the walk-through. There should be two forms for each day (one for the 10:30 am -11:30 am session and one for 6:00 pm – 7:00 pm session).

Date: ____________________________  Time: ____________________________

Total Number of Consumers Appropriately Engaged: ____________________________

Total Number of Consumers Present in Common Area during the check: __________

Staff Members Present:

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________
4. ____________________________________________

A - appropriate engagement: consumer is participating in an activity that is useful in maintaining independence, quality of life, or physical or mental health (e.g., drawing, cooking, setting table, talking with staff) Watching television will be considered engagement only when: consumer is oriented at television and observable facial movements in response to the show occur or the consumers eyes are tracking the movement on the TV; observable motor movement associated with the activity such as using the remote to adjust the volume or change channels or the television is tuned to a channel playing music and the participant was making motor movements such as clapping, singing or rocking in apparent correspondence to the music. Listening to conversation will be considered appropriate engagement if the consumer is oriented at the staff and observable motor movement corresponding to the conversation or their eyes are tracking the person while they are speaking.

R – receiving care: consumer is receiving care from staff that they could not do independently including, moving to a different location in the home, receiving medication, or being fed from a tube.

I - inappropriate engagement: consumer is involved in maladaptive behavior (e.g., aggression, elopement, repetitive inappropriate vocalizations).

N - no engagement: consumer is not participating in any form of activity (e.g., sitting alone, sleeping, and staring blankly). If a consumer is watching television or listening to conversation but does not meet the criteria listed above it will be considered no engagement.
NP – not present: consumer is not present during the interval (e.g., out of the sight of the observer, in his/her room, in the bathroom)

NH – not home: consumer is away from the home during the interval (e.g., at an appointment, at day program)
Appendix K

Preference assessment procedures
**Verbal paired-choice.** Ms. Koerber will ask the consumer what activities he or she enjoys doing at the home with or without help from the staff. The consumer will be given the opportunity to do each activity before the assessment begins (if possible). To determine a ranking of activities, Ms. Koerber will then systematically pair each activity with every other activity and ask the consumer which he or she prefers (e.g., “Would you rather play cards or throw the football?”).

**Multiple-stimulus without replacement.** Before the assessment begins, Ms. Koerber will give the consumer the opportunity to do each activity on his or her list of potentially enjoyable leisure activities. To determine a ranking of activities, Ms. Koerber will then present the activities in an array and ask the consumer to pick one. The consumer will again be given the opportunity to engage in the selected activity. Once the activity is selected it will be removed from the array and Ms. Koerber will ask the consumer to pick the next one he or she would like to do. This procedure will be repeated until all activities are selected or the consumer stops responding.

**Paired-choice.** As above, before the assessment begins, Ms. Koerber will give the consumer the opportunity to do each activity on his or her list of potentially enjoyable leisure activities. To determine a ranking of activities, Ms. Koerber will then systematically pair each activity with every other activity and ask the consumer to physically select one of the two choices (e.g., cards or DVD box). The consumer will again be given the opportunity to engage in the activity. This procedure will be repeated until all pairs have been presented to the consumer or until the consumer stops responding.
Appendix L

Supervisor feedback form
Fill out this form in its entirety on the scheduled observation day. Observe staff until the behaviors below occur or for a maximum of 20 minutes. Select one consumer to observe the staff working with if s/he is assisting more than one consumer. Fill out the three positive areas and one area for improvement and provide feedback to staff after the scheduled hour has elapsed in a PRIVATE area. Staff should sign the form after feedback is given. Return ONLY the first page to the program director each week and give the direct care staff the bottom portion of the staff/consumer interaction section for future reference.

Supervisor:________________________________________

Date: ____________________  Time: ____________________

Staff Observed: Yes / No

If no, why? ____________________________________________

Staff Feedback Given: Yes / No / Na

If no, why? ____________________________________________

Staff Signature: _________________________________
<table>
<thead>
<tr>
<th>Staff / Consumer Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Was the consumer engaged in an activity?</strong></td>
</tr>
<tr>
<td><strong>If yes, did staff praise consumer?</strong></td>
</tr>
<tr>
<td><strong>If no, did staff offer activity choice?</strong></td>
</tr>
<tr>
<td><strong>Activity Engaged with / Selected</strong></td>
</tr>
<tr>
<td><strong>Did the consumer appear to enjoy the activity?</strong></td>
</tr>
<tr>
<td><strong>Did the consumer engaged in problem behavior?</strong></td>
</tr>
<tr>
<td><strong>Overall Positive Interactions from staff?</strong></td>
</tr>
</tbody>
</table>

**Comments:**

___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

 Fill out bottom portion and give to staff for future reference. Do NOT use consumer names or initials.

------------------------------------------------------------------------------------------------------------------

**Three Positive Areas:**

1) ____________________________________________________________

2) ____________________________________________________________

3) ____________________________________________________________

-------------------------------------------------------------------------------------------------------------------

**One Area for Improvement:**

1) ____________________________________________________________
Appendix M

Treatment integrity datasheet
Instructions:
When the supervisor enters the room to conduct the engagement check, note the time on the top of the form.

Observe the direct care staff (DCS) interacting with consumers. DCS should check in with each consumer about every 15 minutes.

At each check note the following information:
Time of check/interaction time: Indicate the time of the check, or the range of time of the interaction.
Staff who checked: Indicate the randomly assigned number of the DCS who checked on the consumer

Circle the appropriate letter for the following categories at each check:
Consumer appropriately engaged:
   Y – Yes: consumer is participating in an activity that is useful in maintaining independence, quality of life, or physical or mental health (e.g., drawing, cooking, setting table) Watching television will be considered engagement only when: consumer is oriented at television and observable facial movements in response to the show occur or the consumers eyes are tracking the movement on the TV; observable motor movement associated with the activity such as using the remote to adjust the volume or change channels or the television is tuned to a channel playing music and the participant was making motor movements such as clapping, singing or rocking in apparent correspondence to the music.
   N – No: consumer is involved in maladaptive behavior (e.g., aggression, elopement, repetitive inappropriate vocalizations) or consumer is not participating in any form of activity (e.g., sitting alone, sleeping, and staring blankly). Listening to conversation will be considered no engagement. If a consumer is watching television but does not meet the criteria listed above it will be considered no engagement.
   NA – Not applicable: consumer is not present during the check (e.g., in the bathroom, in his/her bedroom, away from the home).

If you circle yes for the appropriate engagement category, complete this section:
If yes, staff praised?
   Y – Yes: staff provided a verbal positive response to the consumer (e.g., gave high five, said “good job”. etc.)
   N – No: staff did not provide a verbal positive response (e.g., said nothing, walked away, reprimanded the consumer, etc.)

If you circle no for the appropriate engagement category, complete this section:
If no, staff asked consumer if wanted an activity?
   Y – Yes: staff asked the consumer if he/she would like to be offered activities, or offers an activity
   N – No: staff did not ask
If consumer was not engaged, did staff offer activities?

**Y – Yes:** staff offered the consumer an activity using the choice procedure (e.g., would you like to color or read a book and shows materials)

**N – No:** staff did not offer the consumer an activity (e.g., tells consumer to find something to do, walks away, etc.)

**I – Incorrect:** staff offered the consumer an activity but did not use the choice procedure correctly. (e.g., asks what the consumer what s/he would like to do but does not provide choices)

**Number of additional checks:** How many more checks occurred during the time frame? This is not a requirement, just for information.
**Supervisor Check:** Time of check: ____________________

<table>
<thead>
<tr>
<th>Consumer</th>
<th>0-15 minutes</th>
<th>16-30 minutes</th>
<th>31-45 minutes</th>
<th>46-60 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of check/interaction time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff who checked/interacted:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer appropriately engaged?</td>
<td>Y / N / NA</td>
<td>Y / N / NA</td>
<td>Y / N / NA</td>
<td>Y / N / NA</td>
</tr>
<tr>
<td>If yes, staff praised?</td>
<td>Y / N</td>
<td>Y / N</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>If no, staff asked consumer if wanted an activity?</td>
<td>Y / N</td>
<td>Y / N</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>Staff used choice procedure?</td>
<td>Y / N / I</td>
<td>Y / N / I</td>
<td>Y / N / I</td>
<td>Y / N / I</td>
</tr>
<tr>
<td>Number of additional checks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix N

Staff receptivity survey
Please complete the survey. The results of the survey will be kept anonymous. Please do not write your name on the document.

**STAFF RECEPTIVITY SURVEY**  
**PHASE 2**

Please rate your agreement with each statement below by circling a number next to it. Use the scale below to make your choice.

<table>
<thead>
<tr>
<th>1 strongly disagree</th>
<th>2 disagree</th>
<th>3 undecided</th>
<th>4 agree</th>
<th>5 strongly agree</th>
</tr>
</thead>
</table>

1. The people I support are more actively engaged with leisure materials since I began using the check-in procedure.  

2. The check-in procedure is easy for me to do.  

3. I enjoy using the check-in procedure with the people I support.  

4. Since I learned to do the check-in procedure during the scheduled times, I have used it at other times during the day.  

5. The people I support appear to enjoy participating in the check-in procedure.  

6. Receiving information about the engagement of people I support was useful.  

7. Monthly reward drawings helped motivate me to continue using the procedure.  

8. Overall, I like the check-in, feedback, and monthly reward program.
Please complete the survey. The results of the survey will be kept anonymous. Please do not write your name on the document.

In order to improve the system, it would help us to know what things you liked and what things you might change about the check-in, feedback, monthly reward drawing, and supervisory feedback procedures. We would appreciate any comments you would like to make. Thank you!

Please list three things you liked about the check-in, feedback, monthly reward drawing and supervisory feedback procedures.

Please list three things you would change about the check-in, feedback, monthly reward drawing and supervisory feedback procedures.

---

**STAFF RECEPTIVITY SURVEY**  
**PHASE 3**

*Please rate your agreement with each statement below by circling a number next to it.*  
*Use the scale below to make your choice.*

<table>
<thead>
<tr>
<th>1. strongly disagree</th>
<th>2. disagree</th>
<th>3. undecided</th>
<th>4. agree</th>
<th>5. strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The addition of supervisor feedback helped me implement the check-in procedure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I liked receiving regular supervisory feedback.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I thought I received a sufficient amount of supervisory feedback.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Overall, I like the check-in, feedback, and monthly reward program.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>