

Implementation of “Potty Party”: An Errorless Learning Procedure to Toilet Train
Children with Autism.

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Implementation of “Potty Party”: An Errorless Learning Procedure in the School Setting
to Toilet Train Children with Autism

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Abstract

This study investigates the effectiveness of an all-day toilet training method (“potty party”) for participants with autism. In theory, the “potty party” method resembles the behavioral procedure of errorless learning which maximizes chances for success while minimizing opportunities for failure. Unlike other toilet training methods with dense schedules of brief bathroom visitation, the “potty party” has participants seated on the toilet for long periods (to start) and gives short breaks contingent on in-toilet urination to. The “potty party” method successfully decreased accidents to zero levels for all three participants and increased in-toilet urination for two out of the three.

Keywords: autism, errorless learning, functional communication, reinforcement, toilet training.

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Implementation of “Potty Party”:

An Errorless Learning Procedure to Toilet Train Children with Autism

Toilet training (also commonly referred to as potty training) is a significant milestone in a child’s life. It is also an important event for the child’s parents, teachers, and caregivers. When a child is toilet trained, considerable amounts of time and money are freed up for parents; likewise, teachers and caregivers no longer have to deal with frequent bathroom visits and diaper changing. Despite the many benefits of potty training (independence for the child, lowered costs for parents and caregivers, reduction in time spent changing diapers, etc.), implementation of a consistent toilet training method often poses difficulties.

While it is arduous enough to teach typical children toileting skills, children with developmental disabilities often have an even more difficult time mastering the skill (Ando, 1977). Toilet training, for most children, begins between 24 and 27 months, with some variance depending on the child (Boyse & Fitzgerald, 2010); however, many children with autism and other developmental disabilities can enter adolescence, their teen years, or go their entire lives without mastering toileting skills. This can serve as a major deterrent to the child’s level of independence. Therefore, the goal of the current research is not only to investigate the effectiveness and feasibility of the “potty party” method but also to increase the independence of children with autism and, in turn, alleviate the stress on parents and caregivers.

Previous research has investigated toilet training for children with autism. In a 1977 study by Ando, operant conditioning techniques were used to teach toileting skills to five children with autism in a hospital setting. Ando (1977) used positive reinforcement in the

form of candy and verbal praise, positive punishment, including spanking and removal of wet clothing following accidents, and negative punishment in the form of staff ignoring the child in the event of an accident. Ando's results, however, proved to be inconsistent in that training was successful for only some, not all, children. Ando stated that the results of his study were "good for subjects one and three, fair for subjects two and four, and poor for subject five" (p. 161). Ando's toilet training method also proved to be lengthy in the time it took to elicit independent toileting (approximately two months). In addition, Ando's toilet training method is also not likely to be used today due to its use of physical, positive punishment.

Azrin and Foxx (1974) established a similar procedure for use in the child's home for toilet training that employed the use of positive reinforcement, positive (but not physical) punishment, and training in self-initiated toileting to teach toileting skills to typically developing children and children with varying developmental disabilities. Azrin and Foxx's procedure begins with parents modeling (through the use of a doll) the act of toileting and allowing the child to be interactive and take part in the process. After modeling occurs, the child is placed on the toilet every 15 minutes (for a 10-minute period of time) and is provided praise (positive reinforcement) for successful urination in the toilet and, By contrast, verbal disapproval is delivered for urination in his/her pants (positive punishment). The time interval spent off the toilet increases as the child becomes "trained" and is able to remain off the toilet for an extended period of time without accidents. This procedure, compared to other behavioral paradigms used to toilet train, was found to be more successful in its economy and feasibility (Cicero & Pfadt, 2002).

Based on their approach, Azrin and Foxx wrote the book *Toilet Training in Less Than a Day* (1974) which sold over two million copies. Although this method has been found to be both successful and popular, the authors merely suggest “special procedures” (p. 177), including waiting longer to begin potty training and using longer intervals on the toilet (with no specific interval periods stated), in applying their methods to populations with special needs.

Cicero and Pfadt (2002) used a schedule similar to that of Azrin and Foxx (1974) in the school setting to teach toileting skills to three children with autism. Extending the schedule used by Azrin and Foxx, Cicero and Pfadt required that the children functionally request the bathroom every 30 minutes and remain seated on the toilet for 1 to 3 minutes. Through the use of a consistent schedule and positive social and tangible reinforcement in the event of successful urination, all children participating in the study were able to remain accident free after 7 to 11 training days.

Azrin and Foxx’s method has also been implemented in the home setting by parents after receiving parent training on the rapid toilet training method. Rinald and Miranda (2012) investigated the effects of parent training and, in turn, parent-facilitated toilet training of children with varying developmental and intellectual disabilities. Six families participated in the study, and parents of the children attended a four-hour workshop that detailed the rapid toilet training method that, like Azrin and Foxx’s method, included “scheduled toilet sittings, increased fluid intake, positive reinforcement for correct toileting, and a non-punitive accident procedure” (p. 937).

The day following the training workshop, parents began the toilet training method by sitting the child on the toilet for 30 minutes to start. Upon the child’s first successful

elimination, he/she received praise and a 5-minute break. As the child was more successful voiding in the toilet, off-toilet intervals increased and on-toilet intervals decreased by 5 minutes each. This method succeeded in increasing the children's in-toilet urinations (although these were mainly adult-initiated which they differentiated from child-initiated urinations) and decreasing the children's non-toilet urinations to zero levels within two to five days after intervention began.

Chung (2007) also investigated a rapid toilet training (RTT) method that resembled Azrin and Foxx's procedure with only a few (but important) modifications. Chung implemented the RTT method with a 12-year-old boy with a seizure disorder and developmental delays. During the intervention period, intensive toilet training (that resembled Azrin and Foxx's method) occurred only during the first three hours of the day (as opposed to all day or for the full eight hour school day with the Azrin and Foxx method) during which the student was taken to the restroom every half hour and made to sit for 20 minutes or until successful in-toilet urination occurred. Positive reinforcement in the form of tangibles and praise was provided, as were 10-minute breaks, contingent upon occurrence of successful urination in the toilet.

After the three-hour period of intensive toilet training (8:30-11:30 a.m.), the student's toileting schedule was decreased and the student was taken to the restroom every two hours and was made to sit for five minutes. While this method did help the student increase his number of in-toilet urinations (from 0% in pre-intervention to 64% mean and a high of 92% of urinations occurring in-toilet), reduction in accidents was inconsistent, and the student continued to show high rates of urination in his pants even after 100-plus days of intervention (roughly 35% of off-toilet sessions resulted in accidents on day 133).

Ardiç and Cavkaytar (2014) also investigated an intensive toilet training method (in both the school and the home setting) to potty train three children with autism. Their method involved checking students for dryness every 10 minutes, during a 30-minute period (during the entirety of the school day) and then taking the student to sit for 10 minutes or until successful urination in the toilet. An extension of this schedule was also used in the home, and parents were required to take their child to the restroom every hour and 50 minutes and then required the child sit for 10 minutes or until successful urination occurred.

Results of this study were inconsistent among the three children. The first participant in the research study did achieve in-toilet urination 100% of on-toilet sessions by the end of Day four of intervention (and maintained this through the rest of intervention and probing). However, this participant was still having accidents (during the 30-minute, off-toilet interval) until Day 11 (Day seven of intervention) of the study. The second participant involved in the study did not have complete data during intervention due to lack of parent follow-through for the at-home portion of the training. Lastly, the third participant in this study did reach 100% levels of in-toilet urination and 0% of accidents during the study, but not until Day 26 and Day 29 respectively. This method, although aiding the participants in increasing and/or mastering independent toileting skills, failed to do so in an expedited manner and took at least a week if not more to fully potty train the participants

Other research has, with some success, utilized more extensive methods, such as video modeling, to teach toileting to children with developmental disabilities. The use of animated visual materials (e.g. the video model) in conjunction with other operant

techniques was successful for participants in achieving independent toileting skills (Keen, Brannigan, & Cuskelly, 2007.). The three boys in the treatment condition were able to achieve greater success (i.e., more frequent daytime urination skills) when video modeling was used in conjunction with operant techniques than those in the control condition who were exposed only to the operant techniques.

Prior to entering the bathroom, the boys were to watch a short animated video that modeled urination in the toilet. Afterwards, the boys were reinforced not only for appropriate urination in the toilet but also for the behaviors leading up to or related to urination, such as approaching the toilet, pulling down pants, sitting on the toilet, and flushing the toilet. While this study was found to be successful in increasing daytime, in-toilet urination, none of the participants was completely toilet trained at the end of the study (171 days from baseline), and parents reported that the method was stressful and time consuming.

The present study investigated a potty training method that, unlike previous methods, aims to teach children with autism the skill of toilet training both quickly and effectively (between 1 and 4 days maximum to achieve successful toilet training). The “potty party” method mirrors errorless learning which intends to maximize the students’ chance for success and limit their opportunities for failure in order for them to become potty trained successfully in a shorter period of time.

Errorless learning or errorless discrimination was first developed by Herbert Terrace (1963) to teach color discrimination to pigeons. Using the “errorless discrimination” method, Terrace would present the target color to the pigeon for extended periods of time and would present the incorrect (distractor) color for only a brief period of time. This

method provided the pigeons with a greater chance of correctly picking the target color and made it less likely that they would incorrectly pick the distractor color. Terrace found that his procedure resulted in a reduction of errors from approximately 3,000, with conventional discrimination training, to 25 with errorless learning (Terrace, 1963). Few errors occur with this method because the appropriate situation or setting for a correct response is in effect for extended periods of time while the conditions under which errors may occur are presented only briefly during the intervention.

Mueller, Palkovic, and Maynard (2007) discussed the practical application of errorless learning, in particular, in the school setting and with students with developmental disabilities. According to their findings, errorless learning could be a preferred choice to use with children with developmental disabilities due to their “rigid adherence to routines and response overselectivity and overgeneralization combined with problematic behaviors in response to failure or novel tasks” which “can create situations in which limiting the incorrect response in a learning task is ideal” (p. 695). The same errorless learning procedure used by Terrace to teach pigeons color discrimination and deemed worthy of use in the school setting with developmentally disabled students, was applied to the “potty party” being investigated in the current study.

While the method utilized in the current study has not been empirically investigated, it has been implemented in centers in the Columbus, Ohio area with children with autism. Due to the “potty party” method’s previous non-systematic use and success (but lack of empirical validation), one purpose of the current research was to duplicate the findings and scientifically confirm this toilet training method.

The “potty party” method employs behavioral techniques that have been found to be successful in previous toilet training experiments (contingent, positive, social and tangible reinforcement, consistent toileting schedule, and teaching functional requesting of the bathroom) and expands upon and improves previous methods through the use of errorless learning to create a more expedited and efficient method of toilet training.

Method

Participants

Possible participants were chosen based on both their physical and behavioral readiness to begin toilet training. This meant that participants were going to the bathroom at least once a day and were, to some extent, aware of or showing discomfort about urinating in their diaper (physical readiness) and were able to engage in sitting behavior (on the toilet) with moderate to mild avoidance behaviors (behavioral readiness).

Previous research investigated signs of readiness to toilet train and established: imitative behavior, ability to sit steadily without assistance, expressing a need to evacuate through verbalizations or otherwise, awareness of bladder sensations, and other self-management skills (e.g. dressing and undressing) linked with the toileting process (Kaerts, Van Hal, Vermandel, & Wyndaele, 2012). However, some of these readiness skills were either not feasible or unnecessary for the participants in the current study. After this group of students was compiled, the participants selected for the current research were chosen based on parent and teacher willingness to allow their child/student to participate in the research.

Three males ages 4 (student A), 6 (student B), and 8 (student C) participated in the current research study. All three boys were enrolled full-time at a center for autism and

had a diagnosis of Autism Spectrum Disorder (ASD). As previously stated, the boys were chosen based on physical and behavioral readiness to potty train. Approval of their participation was gained from both teachers and the parents of the participants, and, after parents had been fully disclosed about the potty training method, they signed informed consent to allow for their child's involvement.

Setting

The research project took place in the bathroom and classroom of the center for autism which the participants attended full-time. Both settings were familiar to the participants. The first 1-2 days of intervention took place in the bathroom that, as stated, was familiar to the participants and also was in close proximity to other staff members at the center in the event that the experimenter required additional adult assistance. The bathroom was equipped with three stalls, one of which contained a child-sized toilet, roughly 1 foot from floor to top of seat (used by Participant's A and B) and two which contained adult-sized toilets, roughly 6 inches higher than the child-sized toilet (used by Participant C).

The bathroom selected for use also provided enough space (in addition to multiple chairs and a small desk) outside of the stall to allow, during "off-toilet intervals," the participant and experimenter to engage in other activities such as one-on-one discrete trial work times, snack time, and some leisure/play activities. The remainder of the intervention was spent in the participant's classroom once he was able to remain off the toilet for extended periods of time.

Procedure

A non-concurrent, multiple-baseline design across participants was employed in the current research study. This procedure consists of a "related series of A-B designs across

participants in which each A-B sequence is conducted at a different point in time” (Cooper, Heron, & Heward 2007). This procedure was employed due to its ability to address threats to internal validity while still maintaining flexibility for the teachers and experimenter implementing the toilet training method (Harvey, May, & Kennedy, 2004). Prior to beginning the study, reinforcers for each participant were determined through preference assessments done by the experimenter and/or indirect reporting from parents and teachers. Indirect reporting included reinforcer checklists provided by parents to the center for autism. If, after discussion with parents and teachers, the reinforcers identified on the checklist were still of high value to the participant, these were used for toilet training. If parents and teachers were unsure or could not identify tangible reinforcers, a preference assessment was conducted (multiple stimuli without replacement preference assessment) prior to beginning intervention.

Baseline

Baseline data was collected by the participant’s primary teacher or the experimenter when possible. Data was collected on the number of accidents the participant had during the school day and the number of times he urinated in the toilet throughout the day. The number of accidents the participant had was determined by checking his diaper or pull-up for wetness every thirty minutes throughout the entirety of the day. If the participant was wet, the teacher or experimenter would count this as an accident, change the participant, and check him again in another thirty minutes. Baseline data was collected for at least four days prior to intervention (however, not always immediately prior to intervention due to weekends and participant absences).

Intervention

At the start of each school day, upon entering the building, participants were greeted by the experimenter and were then prompted to request the bathroom. Requesting varied, depending on the participant, but could be done verbally, through the use of the picture exchange communication system (PECS), or through the use of the child's speaking device. Participant A was prompted to verbally request the bathroom and was also shown a picture icon with the written word "bathroom" and a picture. Participants B and C were gesturally or physically prompted to use their speaking device to request the bathroom.

The child was then taken to the restroom, removed his pants and underwear (an added learning opportunity for self-care skills) and was seated on the toilet (forward-facing, in the seated position, with feet placed on the floor). While the child sat on the toilet, liquids were offered and consumption encouraged (a process called flooding). Additionally, salty snacks were offered in order to encourage the participant to request more drinks. However, the most preferred snacks were withheld to be used as reinforcement for when the child successfully voided on the toilet.

While seated on the toilet, the participants were able to engage in various activities, including playing with toys (but not the most preferred toys), reading or singing with the instructor, eating and drinking, and engagement in discrete trial work times with the experimenter. Each participant was also prompted, during the on-toilet intervals, to stand up, shake his legs, stretch, or jump every 10 to 15 minutes in order to prevent any cramping or discomfort from extended sitting. The child remained seated on the toilet until he successfully voided in the toilet, after which the child was given very specific verbal and social praise from the experimenter ("Yeah!" "Great job!" "You put pee in the

potty”) and his most highly preferred edible reinforcers. After successful elimination had been reinforced, the participant was given underwear to put on (another learning opportunity for independent self-care) and was given his most preferred toys or reinforcing items/activities. The participant was then allowed to remain off the toilet for three to five minutes (the specific length of the participant’s break was determined prior to implementation of the potty party and was based on the child’s age and teacher’s and experimenter’s judgment as to how long the child would be able to remain off the toilet without an accident).

During the “off-toilet” interval, the experimenter provided praise for the child’s previous urination in the toilet and for remaining dry during the period that the child was not seated on the toilet. If, during this time off of the toilet, the child had an accident, the experimenter provided a verbal reprimand/redirection (“No, we pee in the potty”) to serve as a startle response and, it was hoped, to stop the flow of urination. The child was also immediately taken to the toilet in hopes that he would be able to finish urinating in the toilet. If the child finished in the toilet, he was reinforced (as described before) and again provided time off of the toilet (participant would revert to last successful interval time without an accident). If the child did not finish on the toilet, he was made aware, in a neutral tone, of the accident and the need to change clothes. The child was provided new underwear, was again prompted to ask for the bathroom, and was required to sit on the toilet in order to repeat the process.

As the child became more successful urinating in the toilet, the time that he was able to spend off of the toilet was increased (typically by 5 to 10 minutes each time) until the child was able to spend a long enough period of time off of the toilet to rejoin classroom

activities. An example of the time-frame and time of the off-toilet intervals during the first two days of the “potty party” can be found in Appendix A.

Appendix A represents Day 1 of the “potty party” for each participant. It can be seen that, to start, Participant A sat until he successfully voided in the toilet. As the participant was more successful voiding in the toilet, his off-toilet interval increased between 5 to 10 minutes each time. However, during two of the off-toilet intervals in a row (4 minutes into Interval 8 and 10 minutes into Interval 10), Participant A had an accident. Upon occurrence of the accident, the participant was immediately taken to the toilet in hopes that he would finish urinating. He did not finish in the toilet during either of those intervals and was made to sit until he was able to void in the toilet.

The next successful, full, off-toilet interval was twenty minutes which was a return to the last time period that the participant had been successful during off-toilet time (Interval 6). For Participants B and C, no accidents occurred on the first or second day of intervention and Appendix A shows the length of time they sat on the toilet and the increase in their off-toilet intervals as they continued to successfully urinate on the toilet.

IOA

For inter-observer agreement (IOA), in addition to the experimenter’s data, the participant’s primary teacher also collected data on four out of five intervention days. Using total count IOA (Cooper, Heron, & Heward, 2007), it was determined that the experimenter and primary teacher were in agreement on the number of accidents and the number of in-toilet urinations 100% of intervals.

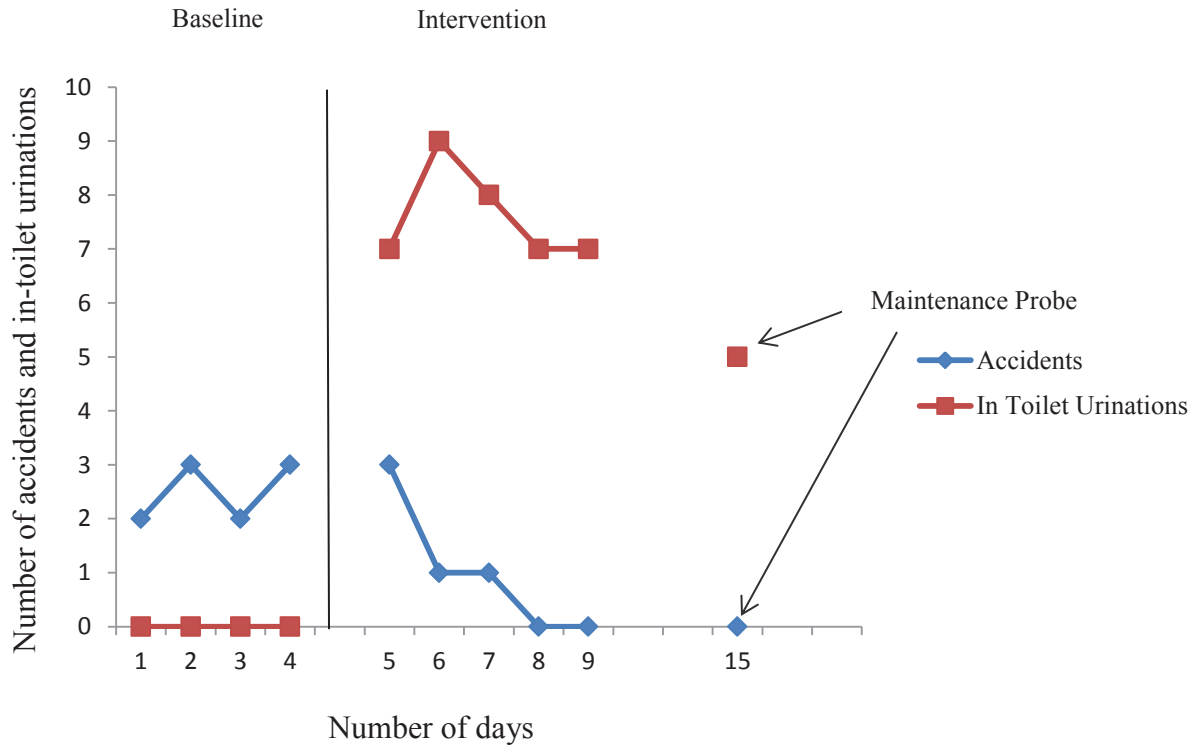
Results

The “potty party” method was successful in both increasing participants’ in-toilet urinations and in decreasing the number of accidents throughout the school day.

Participant A went from a maximum of three accidents a day to zero accidents by Days 4 and 5 of intervention and for the maintenance probe on Day 15 (ten days after the start of the intervention). Participant B was having at least one accident a day and no in-toilet urinations during baseline. According to both the participant’s teacher and mother, Participant B often “held in” his urinations for extended periods of time at both home and school and, therefore, had a low rate of both accidents and in-toilet urinations. Nevertheless, during intervention, Participant B increased his on-toilet urinations and decreased the number of accidents per day (although not down to zero levels on last day of intervention).

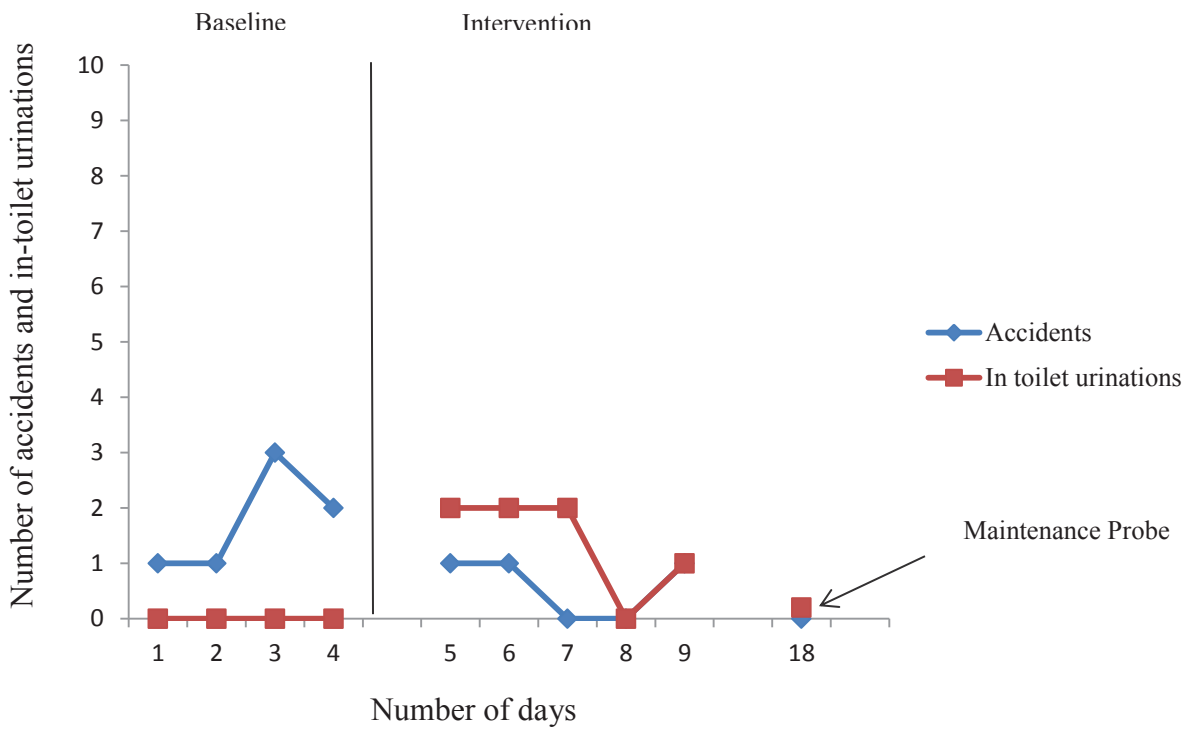
Furthermore, during the maintenance probe (13 days after intervention began), while the participant did not engage in any in-toilet urinations, he also did not have any accidents throughout the day. Participant C, during baseline, was having two to three accidents per day and was not urinating in the toilet. By Day 9 (fifth day of intervention) Participant C was urinating in the toilet multiple times a day and had maintained zero accidents a day for the last two days of intervention and was accident-free on the maintenance probe. It can also be noted that Participants A and B were back in their classroom (although still making frequent bathroom visits) by the end of Day 2, and Participant C was back in his classroom by the start of Day 2.

Participant A



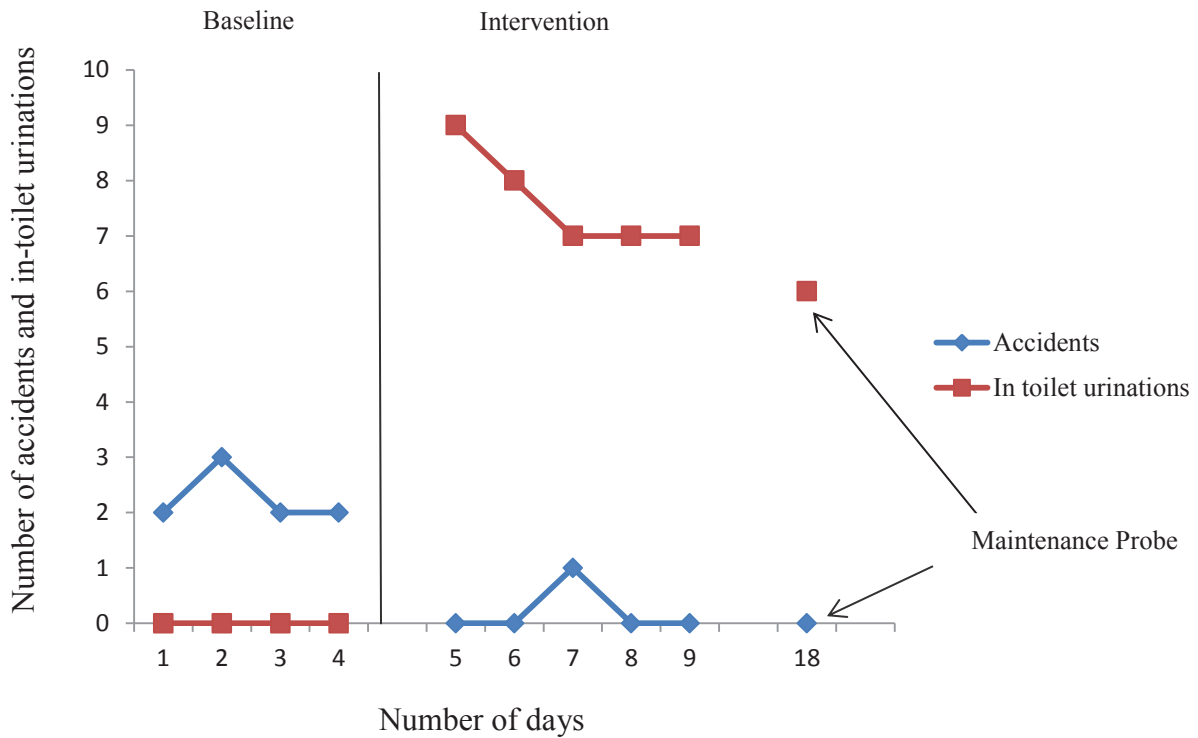
Days	# of accidents	# of in-toilet urinations
Day 1 Baseline	2	0
Day 2 Baseline	3	0
Day 3 Baseline	2	0
Day 4 Baseline	3	0
Day 5 Intervention	3	7
Day 6 Intervention	1	9
Day 7 Intervention	1	8
Day 8 Intervention	0	7
Day 9 Intervention	0	7
Day 10 Intervention	0	5

Participant B



Days	# of accidents	# of in-toilet urinations
Day 1 Baseline	1	0
Day 2 Baseline	1	0
Day 3 Baseline	3	0
Day 4 Baseline	2	0
Day 5 Intervention	1	2
Day 6 Intervention	1	2
Day 7 Intervention	0	2
Day 8 Intervention	0	0
Day 9 Intervention	1	1
Day 10 Intervention	0	0

Participant C



Days	# of accidents	# of in-toilet urinations
Day 1 Baseline	2	0
Day 2 Baseline	3	0
Day 3 Baseline	2	0
Day 4 Baseline	2	0
Day 5 Intervention	0	9
Day 6 Intervention	0	8
Day 7 Intervention	1	7
Day 8 Intervention	0	7
Day 9 Intervention	0	7
Day 10 Intervention	0	6

An additional representation of each participant’s increase in toileting skills can be found Appendix B in the form of the participant’s Assessment of Basic Language and Learning Skills Revised (ABLLS-R) curriculum tracker both pre- and post-intervention

(participant's toileting section of his ABLLS-R trackers can be found below in Appendix B). ABLLS-R is the curriculum used for most school-age students at the Rich Center for Autism and covers skill areas such as motor imitation, vocal imitation, math, spelling, and also daily living skills such as dressing, toileting, and eating. The skill area focused on for this study was the toileting section. Each row in the toilet section represents different goals within that particular skill set. For example, Row 1 (X1) of the toileting section represents the number of in-toilet urinations engaged in (X1.1 being two in-toilet urinations total and X1.4 being at least two, in-toilet urinations a day).

Participant A mastered skills in X1 (urinating on the toilet; went from urinating in the toilet two times total to two or more times per day), X2 (remaining dry on a toileting schedule; has no more than two wet pants per week in a controlled environment) and in X10 which indicates that the student, post "potty party," was able to complete the entire bathroom process with only verbal and gestural prompts. Participant B mastered skills in X1, having urinated in the toilet only twice (X1.1) before intervention and then being able to urinate in the toilet at least two times per week (X1.2). Participant B also mastered X2.1 which indicates that, post-intervention, the student had no more than four wet pants per week. Participant C mastered the last three goals of X1 (the participant went from having only two in-toilet urinations total to being able to successfully void in the toilet two or more times per day), goal X2.1 (has no more than four wet pants per week), and X3.1 (uses one familiar restroom with verbal and gestural prompts).

Additionally, both a parent (for Participant A) and a teacher (for Participant C) reported instances of spontaneous (unprompted) requesting of the bathroom which were followed by the participant successfully urinating in the toilet when taken to the

bathroom. While not as consistent as hoped, any instance of requesting the bathroom is an increase from the zero levels prior to implementation of the intervention. Also, a dense toileting schedule may eliminate the need for participants to request the bathroom and may produce low levels of requesting.

Discussion

The current research project set out to empirically investigate a method of toilet training that was quick, effective, and minimally stressful on both the parents and participants involved. In terms of the amount of time necessary to toilet train the participants, the “potty party” proved to be a much more expedient method than that of Keen, Brannigan, & Cuskelly (2007), who after 171 days of intervention still did not have participants fully potty trained. Through errorless learning, the current method also cuts in half the time it took Cicero and Pfadt’s (2002) method to toilet train its participants. In decreasing the amount of time spent by parents and teachers toilet training their children, the “potty party” can alleviate much of the stress of toilet training. Another stressor that the current method eliminates is the need for excess materials and additional training. Unlike methods that involved video-modeling (Keen, Brannigan, & Cuskelly 2007) or parent modeling of toileting procedures with dolls (Azrin and Foxx’s method and the various similar methods discussed above), the current method requires no additional training prior to implementation of the toilet training method. The “potty party” method also eliminates punishing features used in previous methods, including use of physical punishment in Ando’s method (1977), making the current method one that may be more likely to be used in the future in schools and centers for both typically developing children and those with developmental disabilities.

The current method is similar to the method used by Azrin and Foxx (1974) but may fill the void left in their research regarding how to apply behavioral toilet training methods to children with developmental disabilities instead of merely suggesting “special procedures” (p. 177). Also, unlike the Azrin and Foxx (1974) method and the various similar/modified methods summarized above that require the student to stay dry for periods of time and sit on the toilet for short intervals, the current toilet training method requires sitting until successful urination occurs and provides short, but increasing breaks off of the toilet.

A possible reason for the success of the potty party is the use of errorless discrimination, especially early in training, to minimize the probability of error and maximize the probability of correct discrimination (successful responding, urinating in the toilet rather than in one’s pants). The probability of response-contingent positive reinforcement is also maximized compared to other procedures. Indeed, the problem of toilet training may best be conceptualized as a problem in discrimination training: The toilet is the discriminative stimulus for urination and one’s pants are the S-delta for the response of urination. Given this conceptualization, it should not be surprising that an effective method for teaching discriminated responding from the Experimental Analysis of Behavior (Terrace, 1963), would also be effective for teaching discriminated responding in applied situations such as toilet training children with ASD.

The “potty party” method uses techniques of potty training, previously employed with success, such as contingent positive reinforcement, tangible reinforcement, a consistent toileting schedule, and facilitation of functional requesting. The current method then expands upon other toilet training methods through the use of errorless learning. In doing

so, the current research study has empirically validated a method of toilet training that is not only more expedited than that of previous methods, but is also a feasible in-school or in-home method of toilet training that decreases the amount of time spent potty training and alleviates stress on parents, teachers, and caregivers.

Limitations

Although the “potty party” method was successful in decreasing all three participants’ number of accidents throughout the day to zero and increasing in-toilet urination for two of the three participants (Participant C still had a low rate of in-toilet urinations post-intervention), there are some limitations to the current method. First, the “potty party” method does require a teacher, school aide, or parent to be available for at least one full day, if not more, and requires him or her to spend the better part of that day in the bathroom. In the school setting, an extra staff member is not always available to spend entire days in the bathroom. However, if a staff member is available, the current method is more expedited than many methods of toilet training that have previously been used. Another drawback of this method is that it does not necessarily address bowel movements in the potty training process. While this was not an issue for Participants B or C, as they were not experiencing bowel movements at school, Participant A did have an accident in the form of a bowel movement after the maintenance probe had been collected (according to teacher report).

Conclusion

As stated above, the current research study was successful in decreasing the number of accidents per day for all three participants and increased in-toilet, daytime urinations for Participants A and C. Another intention of the “potty party” method was to elicit

spontaneous, functional requesting of the bathroom. While both parents and teachers reported instances of spontaneous requesting (for Participants A and C) this was not as consistent as initially hoped. However, if appropriate staffing is available and the child is both physically and behaviorally ready to potty train, the “potty party” is a feasible potty training method that is both quick and effective. Future research may look to investigate ways to increase bathroom requesting from children with developmental disabilities and to use the same method or some variant of this method to target bowel movements for complete toilet training mastery.

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Appendix A

Participant A

Interval	On/Off Toilet	Begin Time	End Time	Duration	Accident?	Void on Toilet?
1	On	9:00 a.m.	10:55 a.m.	1 hr 55 min	--	Y
2	Off	10:56 a.m.	11:01 a.m.	5 min	N	--
3	On	11:02 a.m.	11:43 a.m.	41 min	--	Y
4	Off	11:44 a.m.	11:56 a.m.	12 min	N	--
5	On	11:57 a.m.	12:21 p.m.	24 min	--	Y
6	Off	12:22 p.m.	12:42 p.m.	20 min	N	--
7	On	12:43 p.m.	1:05 p.m.	18 min	--	Y
8	Off	1:07 p.m.	1:11 p.m.	4 min	Y	N
9	On	1:11 p.m.	1:27 p.m.	16 min	--	Y
10	Off	1:28 p.m.	1:38 p.m.	10 min	Y	N
11	On	1:39 p.m.	1:56 p.m.	17 min	--	Y
12	Off	1:57 p.m.	2:17 p.m.	20 min	N	--
13	On	2:18 p.m.	2:33 p.m.	15 min	--	Y
14	Off	2:33 p.m.	2:43 p.m.	10 min	Y	N
				Total	3	7

Above is a breakdown of the Participant A's first day of the "potty party." As is seen above, Participant A spent an hour and 55 minutes on the toilet (with standing and stretching breaks roughly every 10 to 15 minutes) before their first in-toilet urination occurred and the following off toilet interval was 5 minutes. The following off-toilet

intervals (i.e. Intervals 4 and 6) increased by 7 and 8 minutes respectively (this increase in time fell within the 5-to-10-minute range suggested previously for each off-toilet interval). However, during Intervals 8 and 10, the participant had an accident (after 4 and 10 minutes) and cut the off-toilet interval short. The participant, during both of these intervals was taken back to the toilet in hopes of finishing urination in the toilet. The participant was not able to finish and was required to stay seated on the toilet until successful in-toilet urination occurred. After successfully voiding in the toilet, the next full, off-toilet interval was 20 minutes in length which was a return to the last successful off-toilet interval during which the participant did not have an accident (20 minutes in Interval 6).

Participant B

Interval	On/Off Toilet	Begin Time	End Time	Duration	Accident?	Void on Toilet?
1	On	9:25	12:08		--	Y
2	Off	12:09	12:16		N	--
3	On	12:17	1:32		--	Y
4	Off	1:33	1:43		N	--
5	On	1:44	2:20		--	N
6	Off	--	--	--	Y	--
					1	2

Above is a breakdown of Participant B's first day of the potty party. The participant was able to hold his bladder for several hours, and when he did successfully urinate in the

toilet, he would empty his bladder. Therefore, his first off-toilet interval was a few minutes longer than that of Participant A. It should also be noted that during Interval 5, the participant was taken off of the toilet before successful urination due to a parent picking him up from school and the participant then had an accident while preparing (dressing and gathering belongings) to leave school.

Participant C

<u>Interval</u>	<u>On/Off Toilet?</u>	<u>Begin Time</u>	<u>End Time</u>	<u>Duration</u>	<u>Accident?</u>	<u>Void on Toilet?</u>
1	On	8:55	9:21	26 min	--	Y
2	Off	9:22	9:27	5 min	N	--
3	On	9:28	9:56	28 min	--	Y
4	Off	9:57	10:04	7 min	N	--
5	On	10:05	10:18	13 min	--	Y
6	Off	10:19	10:29	10 min	N	--
7	On	10:30	10:39	9 min	--	Y
8	Off	10:40	10:55	15 min	N	--
9	On	10:56	11:02	6 min	--	Y
10	Off	11:03	11:23	20 min	N	--
11	On	11:24	11:37	13 min	--	Y
12	Off	11:38	12:03	25 min	N	--
13	On	12:04	12:08	4 min	--	Y
14	Off	12:09	12:39	30 min	N	--
15	On	12:40	12:43	3 min	--	Y

16	Off	12:44	1:20	36 min	N	--
17	On	1:21	1:22	1 min	--	Y
18	Off	1:23	2:04	41 min	N	--
19	On	2:05	2:30	25 min	--	--
					0	10

Above is Participant C's first day of the "potty party." The participant had no accidents during the first day of toilet training, and, as he continued to successfully urinate in the toilet, his off-toilet intervals increased by 5 minutes each interval (except for the first few intervals to gauge participant's ability to stay dry during the off-toilet interval). During the last interval, as seen with Participant B as well, the participant was taken off the toilet prior to successful urination due to parent pick-up for dismissal.

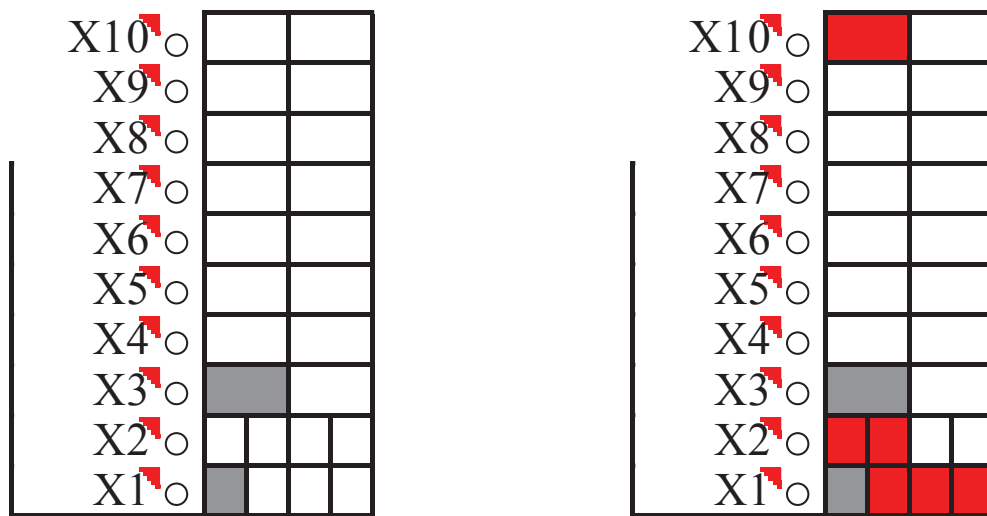
Appendix B

Below is an image of the toileting section of each participant’s ABLLS-R curriculum “tracker” before and after implementation of the “potty party.” An increased number of “blocks” filled in reflects an increase in functioning level for that skill. Pre-intervention ABLLS-R trackers were updated before the beginning of the winter quarter at the Rich Center (January 2015). However, experimenter asked participants’ primary teachers, prior to beginning intervention, if any changes had occurred (new mastered areas or regression of mastered skills) since the last update. Post-intervention shading for each participant was done immediately following data collection for his maintenance probe.

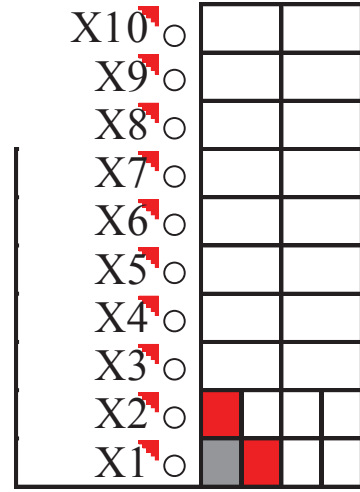
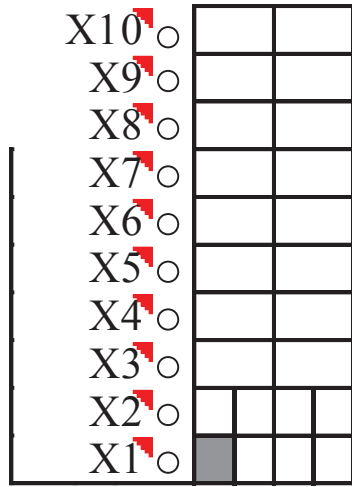
Pre-intervention

Post-intervention

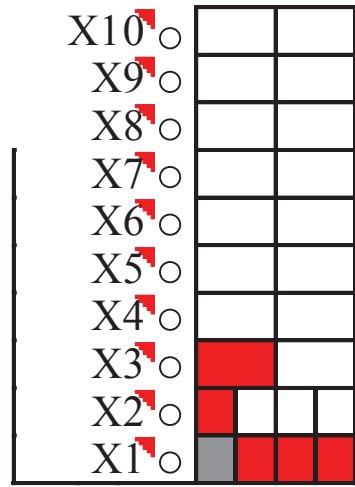
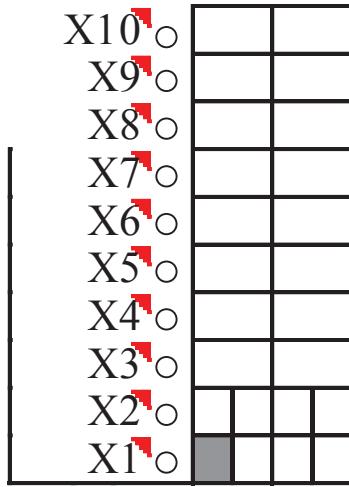
Student A



Student B



Student C



July 7, 2014

Dr. Stephen Flora, Principal Investigator
Ms. Julia Johnston, Co-investigator
Department of Psychology
UNIVERSITY

RE: HSRC PROTOCOL NUMBER: 156-2014
PROTOCOL TITLE: Investigation of the "Potty Party" Method of Toilet Training for
Children with Autism

Dear Dr. Flora and Ms. Johnston:

The Human Subjects Research Committee of Youngstown State University has reviewed the above mentioned protocol and the response to the Committee's concerns that you have provided, and determined that it fully meets YSU Human Subjects Research Guidelines. Therefore, I am pleased to inform you that your project has been fully approved.

Any changes in your research activity should be promptly reported to the Human Subjects Research Committee and may not be initiated without HSRC approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the Human Subjects Research Committee.

Sincerely,

Dr. Daniel Suchora
Interim Associate Dean for Research

DS:cc

c: Dr. Karen Giorgetti, Chair
Department of Psychology