Using Restitutional Overcorrection, Positive Practice, Scheduled Toileting, and Positive Reinforcement to Teach Toileting to a Male Adult with Developmental Disabilities

By

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Dedication

I would like to dedicate this thesis to individuals with developmental disabilities and for the hope of a brighter future for effective and successful interventions in correct toileting.
Abstract

Incontinence is a major difficulty affecting the care of people diagnosed with severe developmental disabilities. Incontinence has adverse consequences for clients in that it may lead to skin irritation, urinary tract infections, and individuals may be prevented from participating in community based activities and also may be avoided by peers. In recent years, psychologists Richard M. Foxx and Nathan H. Azrin have developed a decelerative technique to address incontinence known as overcorrection, which has received widespread acclaim in journal articles, book chapters, and convention and workshop presentations. Research has supported the use of behavioural techniques such as scheduled toileting, restitutution overcorrection, and positive practice as singular treatments for individuals with developmental disabilities. The purpose of the present study was to examine the effectiveness of using these behavioural techniques in combination to achieve independent toileting for an individual with developmental disabilities. It was hypothesized that by implementing scheduled toileting, positive reinforcement, and overcorrection procedures, the participant would be successful in achieving the goal of independent toileting. The participant of this study demonstrated a significant relative increase in percentage of successful in-toilet elimination change of 27.4% from baseline to the final phase of intervention. The overall mean for in-toilet elimination for intervention (M=81, SD=7) was higher than the mean for in-toilet elimination for baseline (M=56, SD=14). Overall, the implementation demonstrated effectiveness in increasing in-toilet urination and defecation. The hypothesis was supported in that the use of scheduled toileting, positive reinforcement, restitution overcorrection, and positive practice increased independent toileting. Although the participant was unable to master the goal within the treatment time, data suggested that with consistent effort the client should eventually be able to fully acquire independent toileting. The present study expanded on the research of different techniques and treatments to address incontinence across different populations.
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Chapter I: Introduction

Learning appropriate toileting methods is a challenging task for anyone to achieve, and for individuals with developmental disabilities, it can be even harder. Unfortunately, there is no single method for training individuals’ appropriate toileting, so programs must be developed and adapted to the needs of different populations.

Overview

Incontinence is a major difficulty affecting the care of people diagnosed with severe developmental disabilities (Azrin & Foxx, 1971). In recent years, psychologists Richard M. Foxx and Nathan H. Azrin have developed a decelerative technique to addressing incontinence known as overcorrection, which has received widespread acclaim in journal articles, book chapters, and convention and workshop presentations. There are two types of overcorrection that can be used individually or in combination to achieve successful toileting. The first type is restitutional overcorrection, which requires the individual to first restore the disturbed environment to its prior state and then improve the environment over its original condition (Axelrod, Brantner, & Meddock, 1978). The second type is positive practice overcorrection, which requires the individual to frequently perform proper behaviours (Axelrod et al., 1978). With each of these techniques, practitioners may add shaping and chaining in order to help clients master different skills. Both restitutional overcorrection and positive practice are behaviourally specific personal care lessons that can offer more independence and improved hygiene to those with developmental disabilities when applied to toileting behaviours. Several studies that have used modified versions of Azrin and Foxx’s overcorrection procedures have reported high success rates in achieving independent toileting.

To achieve successful toilet training with individuals whose cognitive development is below their chronological year, adaptation of common toileting practices is necessary (Wright, 1998). Often it is not simply a matter of learning to respond to bladder and bowel pressures, but rather teaching the complex operant and social process that has been affected by a reduced learning capacity (Azrin & Foxx, 1971).

Hypothesis

Studies that have used the behavioural techniques of scheduled toileting, positive reinforcement, restitutional overcorrection, and positive practice as a singular treatment for people with developmental disabilities have proven to be effective (Azrin and Foxx, 1971). The purpose of the present study is to examine the effectiveness of using these behavioural techniques in combination to achieve independent toileting for an individual with developmental disabilities. It was hypothesized that by implementing scheduled toileting and overcorrection, the participant would be successful in achieving the goal of independent toileting.

Rationale

Research has supported the use of behavioural techniques such as scheduled toileting, restitutional overcorrection, and positive practice as singular treatments for individuals with
developmental disabilities for a variety of issues. However, there has been minimal research completed to examine the effectiveness of using these behavioural techniques in combination and specifically while targeting incontinence. Incontinence has adverse consequences for clients in that it may lead to skin irritation, urinary tract infections, individuals may be prevented from participating in community based activities, and also may be avoided by peers. It is important to research different techniques and treatments to determine success rates across different populations.

This study explored the hypothesis by creating an individualized toileting program using scheduled toileting, positive reinforcement, restitutiol overcorrection and positive practice for a 27-year-old male diagnosed with Rubinstein-Taybi Syndrome and obsessive-compulsive disorder. The treatment served as the independent variable and was implemented for a total of six weeks across all conditions (i.e., at the supported home and day programs). One target behaviour was identified for this study which included increasing in-toilet urination and defecation.
Chapter II: Literature Review

Appropriate toileting is one of the most difficult skills that humans encounter in the first years of life. Those who are unable to master appropriate toilet training procedures early can experience difficulties later in life. Urinary incontinence causes an array of problems that may range from personal embarrassment to imperilled public health (Tarbox, Williams, & Friman, 2004). Post and Kirkpatrick (2004) explain that effective toilet training programs share some combination of several features, including the establishment of stimulus control, shaping or cueing toilet approach and clothing removal, reinforcement of on-toilet elimination, and extinction or mild punishment of incontinence.

Background of Rubinstein-Taybi Syndrome

According to Hennekam et al. (1990), Rubinstein-Taybi Syndrome (RTS) is an uncommon condition that was first described in 1963 as a congenital syndrome with a birth prevalence of one in 100,000 to 125,000 (Galéra et al., 2009). RTS is a condition characterized by short stature, moderate to severe intellectual disability, distinctive facial features, and broad thumbs and large toes. Additional features of the syndrome can include eye abnormalities, seizures, high anxiety levels, excess hair on body, slow development of motor skills, heart and kidney defects, dental problems, and obesity. These signs and symptoms can vary among individuals who are affected by the disorder. Research done by Galéra et al. (2009) concluded that most individuals diagnosed with RTS have no history of the disorder in their family.

So far, no predictors have been identified for the syndrome. RTS is caused by mutations in the CREB Binding Protein (CREBBP) and the E1A Binding Protein P300 (EP300) (Galéra et al., 2009). The CREBBP gene helps control the activity of many other genes. It plays an important role in regulating cell growth and division and is essential for normal fetal development. The typical features of RTS are caused by the EP300 mutations, which inactivate one copy of the protein in each cell and interfere with normal development (Rubinstein-Taybi Syndrome, 2007). To date, there has been very limited research done on the behavioural and social aspects of individuals diagnosed with RTS.

Overcorrection

Overcorrection is a behavioural technique used as a form of punishment to correct undesirable behaviours that individuals display. There are two types of overcorrection; restitutitional overcorrection and positive practice overcorrection. Together they combine the reductive effects of punishment and the educative effects of positive practice (Cooper, Heron, & Heward, 1987). Axelrod et al. (1978) state that “overcorrection procedures were developed as an alternative to traditional punishment techniques that did not have training or educational effects, did not restore the damaged environment, or did not remove the individual from potential sources of reinforcement in the disturbed environment” (p. 368).

Restitutional overcorrection requires the individual to first restore the disturbed environment to its prior state and then improve the environment over its original condition (Axelrod et al., 1978). Restitution is based on having the person do what a normal developing
individual might do to correct a situation, which allows the individual to experience the effort needed to restore the damage, and may cause them not to repeat the behaviour because of the inconvenience of correcting the situation. This may assist the person to realize that time and effort are needed to correct irresponsible actions and undesirable behaviours. Cooper et al. (1987) state that “this form of punishment is better than other forms because of the intention to teach appropriate behavior and responsibility for ones actions”. An example of restitutinal overcorrection may be having the participant first wipe down the toilet seat where he urinated and then wipe down the entire toilet to improve the original state of the environment.

The second type of overcorrection is positive practice. This requires the individual to engage in activities that include the appropriate behaviours that are a natural match to their inappropriate behaviour (Axelrod et al., 1978). This would include having the individual who urinates in his pants sit on the toilet and urinate or defecate inside the toilet. Overcorrection procedures such as washing out his/her own soiled clothes every time he/she has an accident should follow the appropriate toileting procedures. This type of overcorrection works well with people with developmental disabilities due to its consistency and repetitiveness. Effective overcorrection procedures have simplistic routines and expectations that individuals are able to understand, complete properly, and are able to learn from.

In overcorrection, Axelrod et al. (1978) have explained that the method used to educate the individual can be completed in two steps. The first step is to identify what the individual is doing that is inappropriate and causing a disturbance. The second step is to require the individual to repeatedly practice correcting their disturbances whenever the behaviour may occur. This is important because it is seen as re-educative and provides opportunities for the person to be trained in and practice appropriate behaviours. According to Azrin and Foxx (1971), restitutive acts should be designed to have the following characteristics: (a) they should be directly related to the misbehaviour of concern so as not to become arbitrary or punitive; (b) the restitution should be immediately contingent on the disruptive action; (c) the duration of restitution should be extended; and (d) performance of the restitution should require very active participation and effort from the individual with as little assistance as possible. Using least to most prompting throughout intervention will also help the individual learn the expectations faster and will give them a sense of responsibility and accomplishment.

**Scheduled Toileting**

Scheduled toileting is a behavioural technique that uses specific behaviour principles including shaping and chaining. Individuals who are incontinent often wear protective pads and/or diapers and these objects can frequently serve as a stimulus for the inappropriate toileting behaviours. In scheduled toileting, establishment of stimulus control to the toilet and/or transferring stimulus control (from diapers to toilet) is important so that individuals are able to identify the toilet as being the appropriate place to urinate or defecate. Pre-established toileting times can help introduce and maintain routines for people with developmental disabilities (Browning, 1998). Scheduled toileting allows for repetitive actions that encourage individuals to learn the necessary toileting skills on a consistent basis. It can also increase order of operations and successive approximations in acquiring specific toileting skills.
It is important to look at the time of the scheduled toileting intervals and how implementing intervention will provide the maximum benefit to the client. Beginning intervention with a more intense program and then fading intervals will allow the individual to a) learn the skill faster, and b) develop a routine of appropriate toileting (Browning, 1998). Time intervals should be faded throughout intervention to help decrease staff involvement, and assist with increasing independent toileting. While fading time between scheduled toileting, contingent reinforcers would also be faded and individuals may become less dependent on tangible reinforcement.

**Toileting Interventions with Different Populations**

As stated in the introduction of this paper, learning appropriate toileting methods and procedures can be a difficult task for any individual. There is not a ‘one size fits all’ method to teaching these skills, so it is important to individualize a toileting program that is going to fit the person’s needs. Chung (2007) states that “toilet training is a major goal for caregivers of individuals with developmental disabilities for various reasons, including practical concerns and safety concerns” (p. 449). Many different studies have been completed to show the different effects of toileting protocols among populations that range from children to elderly people. To date, there have been no studies that have investigated the use of toileting techniques with individuals specifically diagnosed with RTS. Given this, in the present studies interventions included populations with developmental disabilities that were not specific to RTS.

A study conducted by Didden, Sikkema, Bosman, Duker, and Curfs (2001) used a modified version of the Azrin-Foxx toilet training procedures with individuals with Angelman Syndrome (AS). Angelman syndrome is a complex genetic disorder that primarily affects the nervous system. Characteristic features of this condition include developmental delay, intellectual disability, severe speech impairment, problems with movement and balance, and most affected individuals also have seizures. The aim of their study was to investigate the effectiveness of the frequency of toileting accidents and correct toileting. The participants were six children with severe intellectual disability and AS and who presented as incontinent. During the study, two dependent measures were examined; the first was correct toileting, which occurred when the client defecated or urinated in the toilet. The second was incorrect toileting which occurred when the client defecated or urinated in an inappropriate place other than the toilet. The study consisted of four phases: Baseline, Training, Post-training 1, and Post-training 2. The key behavioural techniques used throughout their intervention were scheduled toileting, positive reinforcement for correct toileting, fading, and restitutional overcorrection. In each of the phases aside from baseline, the scheduled toileting was faded by a certain amount of time. Didden et al. (2001) explain that “a modified Azrin-Foxx toilet training programme was found to be effective in establishing daytime continence in a relatively short period of time in children with AS” (p. 69). Another positive note on this study was that parents and staff working with the children indicated that some individuals showed signs of self-initiated toileting, and also reported that participants showed less dependence with (un)dressing (Didden et al., 2001).

Post and Kirkpatrick (2004) conducted a study that evaluated toilet training procedures for a young boy with Pervasive Developmental Disorder (PDD). The behavioural approach to toilet training pioneered by Azrin and Foxx (1971) was remarkably effective. Some variations on
some of the components of the program have also been demonstrated to be efficacious (Post & Kirkpatrick, 2004). Unique features of this program consisted of tailoring to the in-home environment, training without systematically increasing fluid intake, and the use of social and activity reinforcers. There were four phases implemented in this study, each with different criteria that the child had to meet in order to proceed to the next phase. Phase one began by placing the child on the toilet every 30 minutes for a duration of 20 minutes or until urination or defecation occurred. During phase two, treatment required sitting on the toilet at hourly intervals for five minutes, and the child’s training pants were checked every 30 minutes. Phase three required the child to sit on the toilet every two hours for five minutes or until urination or defecation occurred. If in-toilet urination was achieved for three consecutive days at 80% criterion level then phase four was implemented. Phase four consisted of sitting on the toilet every two and a half hours for five minutes or until urination occurred, with training pants being checked every 75 minutes. During treatment, if the target behaviour occurred then the child was reinforced by playing a Blue’s Clue’s video and playing with a toy of their choice. As stated by Azrin et al. (1994), effective toilet training programs share some combination of several features, including the establishment of stimulus control, shaping or cuing toilet approach and clothing removal, reinforcement of on-toilet elimination, and extinction or mild punishment of incontinence (as cited in Post & Kirkpatrick, 2004). The results of this study support the effectiveness of these techniques with this child. The success of this study indicates that less formal procedures may not necessarily present obstacles to training.

Another study that used a modified version of Azrin and Foxx’s toileting procedures was completed by LeBlanc, Carr, Crossett, Bennett, and Detweiler (2005). Their study consisted of three children who were diagnosed with autism, and who had previous failed attempts of less intensive toilet training such as sitting schedules and reinforcement. The modifications of this study included: not using the restitutional overcorrection, but only the positive practice component; their treatment was initially implemented in an outpatient setting before being implemented at home or in school environments; and a communication training component was included to promote self-initiated toileting (LeBlanc et al., 2005). The decision to not include restitutional overcorrection was based on their beliefs that there may be a benefit in using a lesser form of overcorrection to interrupt the urine stream, teach the individuals the proper toileting sequence in presence of a full bladder, and this would ultimately lead to fewer accidents (LeBlanc et al., 2005). The results of this study show that an intensive behavioural toilet training intervention proved to be effective for all participants who had not responded to prior lower intensity toileting programs. The researchers of this study used a multiple baseline design across settings to evaluate the effectiveness of intervention across different conditions. The first condition was the outpatient clinic, second condition was in the participants’ homes, and third condition was when the child returned to school. Follow up shows that all of the participants remained continent across all conditions one month after treatment had been implemented and there was an increase in self-initiated toileting for two of the participants on a daily basis.

A more recent study by Chung (2007) used a modified version of Azrin and Foxx’s (1971) Rapid Toilet Training (RTT) with a 12-year-old boy with developmental disabilities. The modifications of this program included shortened training hours, omission of the overcorrection procedures, and omission of the urination detection devices. The study consisted of three periods: pre-training, modified RTT, and maintenance training. Pre-training was implemented
for two weeks where scheduled toileting was used. The participant was taken to the bathroom every hour where minimal attention was given except for periodic prompts to urinate in the toilet. The modified RTT included scheduled toileting every hour, increased intake of fluids, and contingent reinforcement such as access to most favourable toys contingent on successful urination. During maintenance training, parts of the program were manipulated to increase success of independent toileting. The participant's diaper was gradually removed and he was taught to urinate in a standing position. The participant demonstrated a marked increase in successful urination in the toilet at school, and ultimately generalized to the home setting without formal training (Chung, 2007).

Several researchers have demonstrated successful implementation of independent toilet training among people with severe and profound developmental disabilities. However, the studies suggest that success is more likely if the right program is implemented in the right way for the right population (Chung, 2007).

Effects of Toileting

It is common knowledge that toileting is a difficult skill to master that has a significant impact on someone’s life. According to Berk and Friman (1990) bladder control is usually obtained between 24 and 48 months of age for normally developing children, but for people with developmental disabilities it typically occurs later, if at all (Chung, 2007). Incontinence is a problem across multiple normal and clinical populations and an increasingly popular solution involves the use of a diaper-like undergarment (Tarbox, Williams, & Friman, 2004). Continued use of diapers has been correlated with spreading infection such as urinary tract infections, bladder infections, and rashes (Halligan & Luyben, 2009). Although diaper-like undergarments may be the only option for select individuals, individualized programs utilizing favourable reinforcers may be implemented with high success rates for achieving independent toileting with many individuals. Given the burden of incontinence for both patients and their caregivers, appropriate toileting techniques are an area worthy of further investigation (van Houten, Achterberg, & Ribbe, 2007).

The Current Study’s Relationship to the Research Literature

The literature reviewed in this chapter supports the use of scheduled toileting, restitutitional overcorrection, and positive practice as effective toileting strategies to use for individuals diagnosed with developmental disabilities. However, more research is needed in order to evaluate different techniques for different populations. Each of the specific cases that were evaluated in this section used at least one of the behavioural techniques described; however, there has not been a study that has integrated all of these treatment options. As such in the present study the researcher incorporates a combination of these behavioural techniques as a treatment package to evaluate their effectiveness.
Chapter III: Methodology

Participants

The participant in this study was a 27-year-old male diagnosed with Rubinstein-Taybi Syndrome, which is a disorder associated with moderate to severe learning difficulties, and obsessive compulsive disorder. He had been engaging in urinary and fecal incontinence for several years and was also displaying some defiant behaviour such as hitting, spitting, yelling, swearing and often getting into power struggles when directed to use bathroom facilities.

Criteria for Inclusion. The participant was included in this study based on the following criteria: the participant resided in a supported home with 24 hour supervision; had been diagnosed with a developmental disability; had displayed urinary and/or fecal incontinence for 5 or more years; had displayed inappropriate toileting behaviours; was an adult 18 years or older.

Criteria for Exclusion. Participants were excluded from this study based on the following criteria: individuals were unable to give consent; individuals with physical conditions causing extreme limitations to daily living; anyone under the age of 18.

The participant was selected based on a referral from the staff at the supported home that he resided in. Referring staff members included the case manager, all full time staff who worked one-on-one with the client, and the supported home’s main supervisor. A consent form (Appendix A) outlining the intervention procedures, data collection, benefits and risks of participating in the program and information including the rights to withdraw from the study at any time without consequence, were obtained from the participant’s legal guardian/contact person and key counsellor. Assent was also obtained from the participant himself following a clear and simplified explanation of the intervention and expectations. All parties were given the opportunity to ask questions or make comments or concerns pertaining to the study. Everyone understood the study and signed the consent forms which were then photocopied so that each party could have one for their own record. The Research Ethics Board at St. Lawrence College approved the present study before data collection began.

Design

This study was presented as a multiple treatment across settings design to assess the effectiveness of the behavioural techniques of scheduled toileting, positive reinforcement, positive practice, and restititutional overcorrection to increase correct toileting procedures. This study was also a pilot study and used modified versions of overcorrection techniques developed by Azrin and Foxx (1971). The researcher, as well as the group home staff assisting the client completed data recording. Graphs are presented as an ABCD design for total percentage of in-toilet elimination to show changes of behaviour across baseline, Phase I, Phase II, and Phase III.

Independent Variables. The independent variable was the intervention, which consisted of scheduled toileting, restititutional overcorrection, positive practice, and positive reinforcement.
Dependent Variables. One target behaviour was identified for this study. The target behaviour was increasing in-toilet urination and defecation. In-toilet urination was defined as eliminating urine fully from the bladder into the toilet without soiling any clothing. In-toilet bowel movement was defined as eliminating fecal matter into the toilet without traces of feces on clothing. At the end of each day, the in-toilet urination and defecation rate was calculated by dividing the number of times the participant urinated or defecated in-toilet by the number of bathroom visits. The success was translated into percentages by multiplying them by 100.

Goals and Objectives. Baseline was collected until a stable accurate reading of behaviours was established. Baseline Data Recording Sheets (Appendix B) were used in baseline to measure the frequency on in-toilet urination and defecation. An ABC Log (Appendix C) was kept to monitor the inappropriate toileting behaviours, along with incontinence.

Setting and Apparatus

Data collection and intervention procedures took place in the setting of the group home, and in the day programs that the client attended. The researcher accompanied him to the day programs to ensure that the intervention procedures were being properly followed. Materials needed for intervention included medical gloves when assisting him in the bathroom, plenty of clean underwear and clothes, and hand soap and/or sanitizer. The researcher used ABC Logs to determine the antecedents and consequences to the problem behaviours. Baseline Data Recording Sheets were used in baseline to measure the frequency of in-toilet and off-toilet urination and defecation. The In-toilet Recording Data Sheet (Appendix D) for all three phases was put into a binder and transported with the participant on a daily basis to collect data from the scheduled toileting intervals.

Measures

Sequence Analysis. The researcher kept an ABC log during baseline to identify the antecedents and consequences that were maintaining the client’s problem behaviours. His aggressive behaviour appeared to be a function of the following antecedents and consequences: The predominant antecedent of the behaviour appeared to be staff asking him to engage in a specific task, such as toileting. He would then engage in aggressive behaviours such as yelling, stomping, arguing, slamming doors, and swearing. As a result of these aggressive behaviours, the participant temporarily was able to escape or avoid the task (i.e., toileting) that may have given him a sense of control over his environment. This recording tool was also used after treatment was implemented to see which behaviours were still present.

Functional Assessment Checklist for Teachers & Staff (FACTS) (Appendix E) A prearranged structured interview was used to interview the participant’s case manager at the group home. The purpose of this interview was to gain information about his undesirable behaviours such as non-compliance, yelling, stomping, swearing and striking others when asked to engage in toileting procedures. According to his case manager, the client’s negative behaviour occurred daily and although staff members had attempted to intervene and correct his negative behaviour, there had been no appreciable improvement. An antecedent identified during the interview was the initial instructions and prompts given by staff to go and use the toilet. This
antecedent resulted in negative behaviours such as spitting and yelling, which were followed by verbal prompts from staff members to redirect his behaviour.

**Baseline Data Recording Sheets.** Prior to intervention, baseline data were collected to examine the frequency of incontinence. Additionally, self-initiated visits were recorded to examine what percentages of bathroom visits were self-initiated. Self-initiated bathroom visits were recorded as a pre and post measure to determine if the treatment phases had any effect on increasing self-initiated visits. These recording sheets were also used for follow-up one week after treatment was complete.

**In-toilet Recording Data Sheets.** In each of the three treatment phases, the researcher used *In-toilet Recording Data Sheets* to track scheduled toileting intervals. These data sheets were used to record what kind of elimination the client had at the specific interval time. The data sheets had the same format across the different phases; the only differences were the time intervals. The data recording sheets showed the total number of urine and fecal eliminations throughout the scheduled toileting intervals on a day-to-day basis.

**Procedures**

The researcher taught all staff members who worked in the supported home the appropriate intervention procedures. From the hours of 0800 and 1600, Monday to Friday, the researcher implemented the intervention. Full time staff members from the supported home were present during intervention to ensure treatment integrity.

Intervention procedures included using scheduled toileting, positive reinforcement, restititutional overcorrection, and positive practice to achieve independent toileting. The program ran for eight weeks including baseline and follow up. There were three phases to the program which included Phase I, Phase II, and Phase III that all lasted for a duration of ten days. Scheduled toileting was faded to help achieve self-initiated visits to the bathroom. All phases consisted of the same toileting and overcorrection procedures, the only difference between phases were the scheduled toileting intervals (see below). Staff members were in the hallway while the participant was using the bathroom, to respect his privacy. If the participant required assistance with wiping, staff entered the bathroom to help with clean up. There was one staff working with the participant throughout the day. At the supported home, there were four full-time staff members, and two part-time staff. When the researcher was not present to implement the program, one of these staff members assisted the participant. If the client engaged in any violent behaviour throughout the intervention, staff members and the researcher used non-violent crisis intervention training to de-escalate the situation to ensure everybody’s safety.

**Scheduled Toileting.** The participant was taught the skill of identifying whether he was ‘clean’ or ‘dirty’, and was responsible for telling the staff at every bathroom visit. Staff would check if he was clean or dirty and then either praise him for being accurate, or correct him if he was inaccurate. He was required to sit on the toilet for 10 to 20 minutes. If the client was completely clean and the target behaviour was achieved in a certain interval, he was not expected to remain seated on the toilet for the full 20 minutes. If he was dirty and had traces of feces or urine on his clothing, we were prompted to remove his soiled clothing, clean himself with
assistance from staff, put new clothes on, and put medical gloves on to begin overcorrection procedures.

Positive Practice. If incontinence occurred between the scheduled intervals, the client was instructed to urinate or defecate in the toilet and remain seated for a duration of ten minutes. If there was evidence of a bowel movement in the client’s undergarments, he was to follow these same procedures. If there were any traces of urine or feces on the toilet while the client was using the bathroom, he was required to use disinfecting Lysol wipes to first wipe down the infected area eight times, and then use a new Lysol wipe to clean the rest of the toilet including the seat, handle, tank, and bowl.

Restitutional Overcorrection. After the participant put on clean clothes and put his gloves on, he was required to take his soiled clothes into the laundry room at his house, clean his clothes with soap and hot water, wring out all of the water in the sink, and then put his clothes inside the washing machine. He was then required to remove his gloves, and wash his hands before overcorrection procedures were complete. These procedures were completed for approximately five minutes after toileting. All of the same procedures were implemented at the client’s day programs, however after he had cleaned his soiled clothes with water and soap, he was to put them in a plastic bag and was expected to put them in the washing machine when he arrived back at the supported home.

Positive Reinforcement. After the participant demonstrated appropriate toileting skills (i.e., identifying he was “clean”, self-care and wiping, flushing, and washing hands) he was given positive social reinforcers from staff such as praise. If the participant had a successful elimination on the toilet, he was able to choose a preferred item (i.e., a DVD, Sponge Bob binder, pop) until the next scheduled toileting interval. During overcorrection procedures, positive reinforcement was only given at the end when all appropriate cleaning procedures were completed (i.e., “Good job cleaning your mess”).

Phase One. Phase one consisted of scheduled toileting intervals that required the participant to sit on the toilet every 30 minutes between the hours of 0600 to 2100. Staff would record data for each interval on the In-toilet Data Recording Sheet, as seen in Appendix D. Phase one was implemented for ten days.

Phase Two. Phase two consisted of scheduled toileting intervals that required the participant to sit on the toilet every 60 minutes between the hours of 0600 to 2100. Staff would record data for each interval on the In-toilet Data Recording Sheet, as seen in Appendix D. Phase two was implemented for ten days, including on the weekends during home visits with Joe’s mother.

Phase Three. Phase three consisted of scheduled toileting intervals that required the participant to sit on the toilet every 90 minutes between the hours of 0600 to 2100. Staff would record data for each interval on the In-toilet Data Recording Sheet, as seen in Appendix D. Phase three was implemented for ten days and also on weekends to develop routine and consistency.
Chapter IV: Results

The participant of this study demonstrated a significant relative increase in percentage of change of 27.4% from baseline to the final phase of intervention. During baseline, the participant had an average in-toilet elimination rate of 56%. The goal that was set for phase 1 was that he would meet the criteria of achieving a minimum of 60% total in-toilet elimination. His mean in-toilet elimination for phase 1 was 62%. A goal of 70% in-toilet elimination as set for phase 2. The participant succeeded at obtaining a 74% average of in-toilet elimination in phase 2. The final target in phase 3 was a criterion of 80% in-toilet elimination at the end of the ten-day phase. The participant managed to achieve an 81% success rate for in-toilet elimination. Thus the participant met the target rates for each phase of intervention. Table 1 displays the mean, median, and standard deviation of in-toilet elimination for baseline and treatment phases. As seen in Figure 1, Baseline data show a stable trend and intervention data show a stable increase in percentages of in-toilet elimination.

Table 1
Percentage of In-toilet Success

<table>
<thead>
<tr>
<th>The Client’s Percentage of In-toilet Success</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>56%</td>
<td>50%</td>
<td>14%</td>
</tr>
<tr>
<td>Phase One</td>
<td>62%</td>
<td>63%</td>
<td>13%</td>
</tr>
<tr>
<td>Phase Two</td>
<td>74%</td>
<td>74%</td>
<td>10%</td>
</tr>
<tr>
<td>Phase Three</td>
<td>81%</td>
<td>80%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Figure 1. The Client’s Daily Percentages of Events for In-toilet Elimination
The overall mean for in-toilet elimination for intervention (M=81%, SD=7) was higher than the overall mean for in-toilet elimination for baseline (M=56%, SD=14), which is consistent with the hypothesis that using restitutional overcorrection, positive practice, positive reinforcement and scheduled toileting would have the effect of increasing in-toilet elimination. The overall percentage of non-overlapping data (PND) was calculated with results of 83.3%, which has a rating of being moderately effective (Appendix H). The trend of the graph indicates an increase from baseline (Appendix F).
Chapter V: Discussion

Overall, the study demonstrated that the intervention was effective at increasing in-toilet urination and defecation for the client. Scheduled toileting, positive reinforcement, restitutional overcorrection, and positive practice helped the client toward the goal of independent toileting. Although the participant was unable to master the goal within the treatment time, data suggests that with consistent effort the client should eventually be able to acquire independent toileting.

Current Literature

Research has supported the use of behavioural techniques such as scheduled toileting, restitutional overcorrection, and positive practice as singular treatments for individuals with developmental disabilities for a variety of issues. However, there has been minimal research done to examine the effectiveness of using these behavioural techniques in combination and specifically while targeting incontinence. It is important to research different techniques and treatments to determine success rates across different populations. The current study had positive results in using restitutional overcorrection, positive practice, scheduled toileting, and positive reinforcement in combination for helping to achieve independent toileting.

The present findings support the research done by Azrin and Foxx (1971) that identifies the criteria for restitutional overcorrection which must include the following to be effective in treatment: (a) they should be directly related to the misbehaviour of concern so as not to become arbitrary or punitive; (b) the restitution should be immediately contingent on the disruptive action; (c) the duration of restitution should be extended; and (d) performance of the restitution should require very active participation and effort from the individual with as little assistance as possible. As stated by Azrin et al. (1994, as cited in Post & Kirkpatrick, 2004), effective toilet training programs share some combination of several features, including the establishment of stimulus control, shaping or cueing toilet approach and clothing removal, reinforcement of on-toilet elimination, and extinction or mild punishment of incontinence. By eliminating the stimulus of the protective pads and diapers and introducing scheduled toileting in combination with reinforcement of in-toilet elimination and punishment procedures and off-toilet elimination, the present study is consistent with previous research done on incontinence.

Program Changes

In an attempt to increase the success rates of this treatment program, it was suggested by staff members involved that more time to implement interventions would be helpful. Due to the different staff rotation of the home and busy scheduling, it was difficult to gather data and implement the intervention on nights when there was only one staff member working. Including the treatment protocols as part of the orientation for new staff coming into the group home would have been beneficial so that all staff members were given the same information and taught the same techniques to increase consistency of the program. Another potential change could have been to increase the responsibility that the client had across in other areas as well so that he could learn to generalize his new self-care skills.

For future use of this program, staff members at the supported home and in the day programs were highly encouraged to continue monitoring and aiding the client in his toileting progress using the mediator instructions provided (Appendix G). The client was also encouraged
to continue to use his toileting skills until they became automatic and he has achieved a level of mastery. Continuing to replace tangible reinforcers with social reinforcers should help the client be less dependent on rewards and more satisfied with his accomplishments.

**Strengths and Limitations**

Some strengths of this program were the simplicity of the procedures used to implement restitutinal overcorrection and positive practice. They were simple to follow and easily adaptable to the different environments that the client was in during the day. Also, the amount of support from both the group home staff members and the day program staff members was significant. At times, the scheduled toileting interval may have interfered with a previously planned activity and all staff was supportive in making sure that the intervention integrity was prioritized.

There were many strengths of this program but there were also a few limitations. Although staff were very supportive in assisting the counsellor to make sure the client’s needs were met, when the client did not have the one to one assistance from the counsellor, staff members did not always follow the toileting procedures. It was difficult to keep staff current on the intervention with the significant turnover rate of staff at the house throughout the program. It was a challenge to ensure that each staff member followed the toileting protocols to ensure that the intervention was provided with the consistency needed to develop a routine and learn new skills. Data recording was also inconsistent as staff would forget to record the result of bathroom visits on the interval recording sheets. A further limitation to this study was that the client had to follow such strict guidelines with the scheduled toileting that he had to commit to this program for an extensive period of time. The client became irritated at times during the intervention due to missing parts of an activity, but he quickly learned the requirement to get off the toilet and ultimately, in-toilet elimination was increased. Also, it is difficult to make causal statements from case studies such as the present study, because based on different diagnosis and populations it is hard to generalize findings from one individual.

**Multilevel Challenges**

**Client Level.** Challenges at the client level consisted of difficulty to initially connect with the client when first being introduced into the group home. Clients who reside in supported homes often experience a high turnover rate with staff members and it is difficult for them to form relationships and/or have trust in people. It took much longer to develop a rapport with this client than it might be with other adults who do not have developmental disabilities and/or live in a supported home.

**Program Level.** All supported homes require staffing 24 hours a day and the demands that accompany this profession may lead to a high burnout rate. Staff must be able to employ different skills in this profession such as cooking, cleaning, behavioural training, and activity planning. At times it would be difficult to meet certain criteria of the program due to outings and/or availability of bathrooms. If staff members do not have a solid structure between rotations, this can lead to having a stressed environment that can interfere with the quality of service that staff members deliver.

**Organizational Level.** Setbacks can occur in group homes while staff are waiting for their supervisor's permission to engage in different activities. Individuals who are in a
managerial position are not in the group homes on a regular basis, which can affect background knowledge of what happens on a day-to-day basis. Additionally, their client rapport may not be as strong. It would be difficult to implement behavioural programs within the agency due to the number of new staff working within the house and at the day programs. If decisions are made without the input from front line staff then this can weaken the strength of the services offered.

**Societal Level.** At the societal level, challenges may include general knowledge by the public about group homes and how they work. Advocating for services to continue to provide support for those who need it and raising awareness is important because often people with developmental disabilities cannot speak for themselves. Raising awareness is important especially in schools and community programs where information sessions can be very easily incorporated. This may motivate younger generations to become involved, and may motivate the community to learn more about the issues pertaining to people with developmental disabilities specifically and group homes in general.

**Contribution to Behavioural Psychology Field**

The effectiveness of the different behavioural techniques included in this study had already been demonstrated as single treatments in the behavioural psychology field. This study adds to the research on using restitutinal overcorrection, positive practice, scheduled toileting, and positive reinforcement in combination for increasing in-toilet elimination with a client with developmental disabilities. As the results from this study indicate, basic life skills can be taught using a variety of different behavioural techniques with an individual with developmental disabilities.

**Recommendations for Future Research**

This study was able to demonstrate that by using an intensive program that consisted of four combined behavioural techniques, independent toileting was increased for a client with developmental disabilities. Future research should evaluate the contribution of each behavioural technique individually and then in combination to see if there is an additive effect. Also, the present study did not include returning to baseline to see if the behaviours generalized to post-intervention without reinforcers. Testing for self-initiated bathroom visits using the present procedures are recommended to observe generalization of behaviours across different conditions. Future research should include inter-observer reliability to ensure reliable data, to use a larger sample size and to consider different types of disabilities.


Appendix A: Consent Form

CONSENT FORM

TITLE: Using Overcorrection and Positive Practice to Teach Correct Toileting for a Male Adult with Developmental Disabilities

STUDENT: Katie Canfield

COLLEGE SUPERVISOR: Yolanda Fernandez

INVITATION
I am a student in my 4th year in the Behavioural Psychology at St. Lawrence College and I am currently on placement at Pathways to Independence: Mark Crescent house. As a part of this placement, I am completing a special project called an applied thesis and am asking for your assistance to complete this project. The information in this form is intended to help you understand my project so that you can decide whether or not you want to participate. Please read the information below carefully and ask all the questions you might have before deciding whether or not to participate.

WHAT IS THE PURPOSE OF THE STUDY?
Learning appropriate toileting methods is a challenging task for anyone to achieve, and for individuals with developmental disabilities, it can be even harder. Unfortunately, there is not one simple way to train all individuals appropriate toileting, so programs must be developed and manipulated to fit the needs of different people. The purpose of this study is to examine the effectiveness of using scheduled toileting, restitutional overcorrection, and positive practice to achieve independent toileting for an individual with developmental disabilities.

WHAT WILL YOU NEED TO DO IF YOU TAKE PART?
If you agree to complete this program, you will be asked to attend an initial meeting with the counsellor as well as full time staff from Pathways to Independence: Mark Crescent house. During this meeting confidentiality will be covered and the program will be explained in depth and all expectations will be outlined. The toileting program will run for eight weeks in which three phases will be implemented. You will be required to follow scheduled toileting throughout intervention, as well as complete the requirements for positive practice and restitutional overcorrection. If correct toileting occurs, you will be able to take part in a desirable activity of your choice (i.e. ride on the city bus).

WHAT ARE THE POTENTIAL BENEFITS TO ME OF TAKING PART?
The potential benefits of participating in this program include learning more about yourself and expanding your abilities to build independence. This program will also provide the opportunity to provide a sense of responsibility for cleanliness and self care.

WHAT ARE THE POTENTIAL BENEFITS TO OTHERS OF TAKING PART? (IF APPLICABLE)
Information from this program may be used to help develop similar programs specific to individuals with developmental disabilities in the future. Your involvement may help determine how effective scheduled toileting and overcorrection can be to clients with developmental disabilities.

WHAT ARE THE POSSIBLE DISADVANTAGES AND RISKS OF TAKING PART?
There are minimal risks to this study which may include the client getting frustrated with scheduled toileting, and he may become irritated when having to do positive practice of cleaning procedures. Until the participant gets into the routine of scheduled toileting, a possible risk may be that he will hold his fecal matter in his bowels because he will no longer have the security of a protective pad or “diaper”.

**WHAT HAPPENS IF SOMETHING GOES WRONG?**
Social and emotional triggers may be set off sometime during this study. It is important to remember that you are able to talk to the counsellor, supervising staff, and any staff at Pathways to Independence. Since this is a volunteer program, you reserve the right to withdraw at any point in time without any explanation needed.

**WILL MY TAKING PART IN THIS PROJECT BE KEPT PRIVATE?**
Any involvement you take in this program will be kept confidential unless required by law. All hard copies of documents will be kept in a locked filing cabinet that only staff are able to access. All files that are kept on the computer will be in a password-protected folder where only I will be able to access the material. All documents, both hard copies and digital, will be stored for a total of six years.

**DO YOU HAVE TO TAKE PART?**
It is up to you to decide whether or not to take part. If you do decide to take part, you will be asked to sign this consent form. If you do decide to take part, you are still free to withdraw at any time, without giving any reason, and without incurring any penalty. Assent will be obtained by the participant due to their developmental disability.

**CONTACT FOR FURTHER INFORMATION.**
This project has been approved by the Research Ethics Board at St. Lawrence College. The project will be developed under the supervision of Yolanda Fernandez, my supervisor from St. Lawrence College. I really appreciate your cooperation. If you have any additional questions or concerns, feel free to ask me, Katie Canfield, or you can contact my College Supervisor, Yolanda Fernandez at 613-536-6786. You may also contact the Research Ethics Board at appliedresearch@sl.on.ca.

**CONSENT**
If you agree to participate in the project, please complete the following form and return it to me as soon as possible. A copy of this signed document will be given to you for your own records. An additional copy of your consent will be retained at the agency and in a secure location with the Research Ethics Board at St. Lawrence College.
CONSENT

By signing this form, I agree that:

- The study has been explained to me.
- All my questions were answered.
- Possible harm and discomforts and possible benefits (if any) of this study have been explained to me.
- I understand that I have the right not to participate and the right to stop at any time.
- I am free now, and in the future, to ask any questions about the study.
- I have been told that my personal information will be kept confidential.
- I understand that no information that would identify me will be released or printed without asking me first.
- I understand that I will receive a signed copy of this consent form.

I hereby consent for ______________________ to participate in this study because he/she meet the criteria and may benefit from this experience.

Parent/Guardian Printed Name: ________________________________

Signature: ________________________________ Date: _________________

Key Counsellor: ________________________________ Date: _________________

Printed Name: ________________________________

SLC Student Signature: ________________________________ Date: _________________

Printed Name: ________________________________
Assent

By signing this form, I agree that:

- The study has been explained to me.
- All my questions were answered.
- Possible harm and discomforts and possible benefits (if any) of this study have been explained to me.
- I understand that I have the right not to participate and the right to stop at any time.
- I am free now, and in the future, to ask any questions about the study.
- I have been told that my personal information will be kept confidential.
- I understand that no information that would identify me will be released or printed without asking me first.
- I understand that I will receive a signed copy of this consent form.

I hereby consent to participate in this study.

Participant Printed Name: ____________________________

Signature: _______________________________ Date: _________________

SLC Student Signature: ____________________________ Date: _________________

Printed Name: ____________________________
**Baseline Data Recording Sheet**

<table>
<thead>
<tr>
<th>Time</th>
<th>Urinate</th>
<th>Bowel Movement</th>
<th>Self Initiated</th>
<th>In-toilet/ Off Toilet (Please Circle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:17am</td>
<td>x</td>
<td>x</td>
<td></td>
<td>(In) Off</td>
</tr>
<tr>
<td>In</td>
<td>Off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In</td>
<td>Off</td>
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<tr>
<td>In</td>
<td>Off</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: In: Off:
Appendix C: ABC Log

--- Antecedent --- Behaviour --- Consequence ---
(ABC Log)

Name: Joe

Target Behaviours:
1. Aggressive Behaviours – hitting, spitting, yelling, stomping feet, swearing
2. Off toilet bowel movement
3. Off toilet Urination

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Antecedent (What occurred just before behaviour?)</th>
<th>Behaviour</th>
<th>Consequence (What occurred just after behaviour?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 15/10</td>
<td>8:30 am</td>
<td>Prompted to go to bathroom</td>
<td>Yelled &quot;NO!&quot; and ran away</td>
<td>Staff assisted Joe to bathroom</td>
</tr>
<tr>
<td></td>
<td>11:00 am</td>
<td>Prompted to go to bathroom</td>
<td>Ignored Prompt</td>
<td>Staff tried to guide Joe but he hit and spit at them</td>
</tr>
<tr>
<td></td>
<td>3:30 pm</td>
<td>Asked to sit on toilet</td>
<td>Yelled &quot;No&quot; and ran away</td>
<td>No follow through</td>
</tr>
<tr>
<td>Sept 17/10</td>
<td>8:30 am</td>
<td>Joe urinated in pants, prompted to toilet</td>
<td>Joe sat on toilet</td>
<td>Praised for sitting on toilet</td>
</tr>
<tr>
<td></td>
<td>3:30 pm</td>
<td>Prompted to sit on toilet</td>
<td>Said &quot;I can't&quot; and ignored Request</td>
<td>Staff prompted again</td>
</tr>
<tr>
<td>Sept 20/10</td>
<td>8:45 pm</td>
<td>Prompted to sit on toilet</td>
<td>Ran away</td>
<td>Able to avoid situation</td>
</tr>
<tr>
<td></td>
<td>10:00 am</td>
<td>&quot;</td>
<td>Yelled &quot;No&quot; spitting/hitting</td>
<td>Verbal reprimands</td>
</tr>
<tr>
<td></td>
<td>3:15 pm</td>
<td>Home from Day Program</td>
<td>Went &amp; sat on toilet</td>
<td>Praise for self-initiated visit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: In-toilet Recording Data Sheet

In-toilet Data Recording Sheets (Phases 1, 2, and 3)

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Time</th>
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<th>B.M</th>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6:50am</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7:40am</td>
<td>None</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>8:30am</td>
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<tr>
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<td>11:50am</td>
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<td></td>
<td>12:40pm</td>
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<tr>
<td></td>
<td>1:30pm</td>
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<tr>
<td></td>
<td>2:20pm</td>
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<tr>
<td></td>
<td>3:10pm</td>
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<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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<td>6:00pm</td>
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<td></td>
<td>9:00pm</td>
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<table>
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<tr>
<td></td>
<td>7:50am</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9:40am</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:30am</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1:20pm</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3:10pm</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5:00pm</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6:50pm</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8:40pm</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9:00pm</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>
Appendix E: Functional Assessment Checklist for Teachers & Staff (FACTS)

Functional Assessment Checklist for Teachers and Staff (FACTS Part A)

Student: Joe  
Date: September 17/10
Interviewer: K. Canfield  
Respondent: Ms. Coleson

Student Profile: Please identify at least three strengths or contributions that the child brings to the home.

Joe is caring, helpful, and eager to please.

Problem Behaviour(s): Identify problem behaviours

- Tardy
- Unresponsive □
- Withdrawn □
- Fight/Physical Aggression □
- Inappropriate Behaviours □
- Verbal Harassment □
- Verbally Inappropriate □
- Disruptive □
- Insubordination □
- Work not done □
- Theft □
- Vandalism □
- Self-injury □
- Other Tacoing □

Describe Problem Behaviour: Incontinent (stool) + Aggressive

Identify Routines: Where, when and with whom problem behaviours most likely occur

<table>
<thead>
<tr>
<th>Schedule (times)</th>
<th>Activity</th>
<th>Likelihood of Problem Behaviour</th>
<th>Specific Problem Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>6am-8am</td>
<td>Morning Routine</td>
<td>Low 1 2 3 4 5 6</td>
<td>Incontinent (holding stool)</td>
</tr>
<tr>
<td>9-3pm</td>
<td>Day Programs</td>
<td>1 2 3 4 5 6</td>
<td>N/A</td>
</tr>
<tr>
<td>3-5pm</td>
<td>Afternoon Routine</td>
<td>1 2 3 4 5 6</td>
<td>Refuse to go to bathroom (mutting, spitting)</td>
</tr>
<tr>
<td>5-9pm</td>
<td>Nighttime Routine</td>
<td>1 2 3 4 5 6</td>
<td>Aggressive after prompts.</td>
</tr>
</tbody>
</table>

Select 1-3 Routines for further assessment: Select routines based on (a) similarity of activities (conditions) with ratings of 4, 5, and 6 and (b) similarity of problem behaviour(s). Complete the FACTS-Part B for each routine identified.
Functional Assessment Checklist for Teachers and Staff (FACTS Part B)

Student: Joe
Interviewer: K. Canfield
Date: September 17/10
Respondent: Ms. Coleson

<table>
<thead>
<tr>
<th>Routines/Activities/Context: Which routine (only one) from the FACTS-Part A is assessed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine(Activity/Context)</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>Prompts to use bathroom</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Provide more detail about the problem behaviour(s):

What does the problem behaviour(s) look like?
- Stomps away, yells, hits, spits at staff

How often does the problem behaviour(s) occur?
- Daily

How long does the problem behaviour(s) last when it does occur?
- Anywhere from 30 seconds to 20 minutes

What is the intensity/level of danger of the problem behaviour(s)?
- Interferes 2 QOL

What are the events that predict when the problem behaviour(s) will occur? (Predictors)

<table>
<thead>
<tr>
<th>Related Issues (Setting Events)</th>
<th>Environmental Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>_ ill ease</td>
<td>Other: too many demands</td>
</tr>
<tr>
<td>_ drug use</td>
<td></td>
</tr>
<tr>
<td>_ negative social</td>
<td></td>
</tr>
<tr>
<td>_ conflict at home</td>
<td></td>
</tr>
<tr>
<td>_ academic failure</td>
<td></td>
</tr>
<tr>
<td>_ reprimand/correction</td>
<td></td>
</tr>
<tr>
<td>_ physical demands</td>
<td></td>
</tr>
<tr>
<td>_ socially isolated</td>
<td></td>
</tr>
<tr>
<td>_ with peers</td>
<td></td>
</tr>
<tr>
<td>_ Other</td>
<td></td>
</tr>
<tr>
<td>_ unstructured activity</td>
<td></td>
</tr>
<tr>
<td>_ tasks too boring</td>
<td></td>
</tr>
<tr>
<td>_ activity too long</td>
<td></td>
</tr>
<tr>
<td>_ tasks too difficult</td>
<td></td>
</tr>
</tbody>
</table>

What consequences appear to most likely maintain problem behaviour(s)?

<table>
<thead>
<tr>
<th>Things that are obtained</th>
<th>Things avoided or escaped from</th>
</tr>
</thead>
<tbody>
<tr>
<td>_ adult attention</td>
<td>Other:</td>
</tr>
<tr>
<td>_ peer attention</td>
<td>hard tasks</td>
</tr>
<tr>
<td>_ preferred activity (Avoiding)</td>
<td>reprimands</td>
</tr>
<tr>
<td>_ money/things</td>
<td>peer negatives</td>
</tr>
<tr>
<td></td>
<td>physical effort</td>
</tr>
<tr>
<td></td>
<td>adult attention</td>
</tr>
</tbody>
</table>

Summary of Behaviour

<table>
<thead>
<tr>
<th>Setting Events and Predictors</th>
<th>Problem Behaviours</th>
<th>Maintaining Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompts to use bathroom</td>
<td>Fecal Incontinence</td>
<td>Escape/Avoiding Task</td>
</tr>
<tr>
<td></td>
<td>Aggressive beh.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: Trend lines in Events of In-toilet Elimination

Events of In-toilet Elimination for Joe

Baseline | Phase 1 | Phase | Phase 3

Days

Daily Percentage of In-toilet Elimination (%)
## Appendix G: Intervention Instructions For Intervention Procedures

### CLIENT NAME: Joe

#### PROCEDURE: Using Scheduled Toileting, Positive Reinforcement, and Overcorrection Procedures to Increase On-toilet Elimination

#### MEDIATOR(S): Case Manager

#### LOCATION: Supported Home

#### TARGET BEHAVIOUR(S) (operational definitions):

1. **In-toilet urination** was defined as eliminating urine fully from the bladder into the toilet without soiling any clothing. **In-toilet bowel movement** was defined as eliminating fecal matter into the toilet without traces of feces on clothing. Scheduled toileting will be implemented and data recording will be completed after each bathroom visit to monitor progress.

### STEPS:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Reminders</strong></td>
<td>Remind Joe to use the bathroom at the scheduled intervals, remove his shoes and clothes appropriately, sit on the toilet until elimination has occurred, and to complete proper clean up routines.</td>
</tr>
<tr>
<td><strong>2. Prompt</strong></td>
<td>Whenever the case manager or group home staff notice’s Joe displaying a desirable behaviour they will give him praise and attention. This will lead him more to social reinforcers and to be less dependent on tangibles.</td>
</tr>
<tr>
<td><strong>3. Observe</strong></td>
<td>Observe and record the target behaviours during the scheduled intervals. These should be completed on a daily basis to help with the consistency of reinforcing the behaviour program and routines.</td>
</tr>
<tr>
<td><strong>4. Positive Reinforcement</strong></td>
<td>As Joe is engaging, or about to engage in the appropriate behaviours, reinforce him with preferred items or activities. This may look like “Joe, when you’re done sitting on the toilet we can go and get a pop!” If an undesirable behaviour occurs, allow Joe to use the skills of overcorrection to clean up, and provide praise for appropriate self care.</td>
</tr>
<tr>
<td><strong>5. Phase out Tangible Reinforcers</strong></td>
<td>When Joe has shown consistent levels of on-toilet elimination, staff members will increase the level of difficulty to obtain preferred items or activities as well as phase out the tangible reinforcers and replace with positive social reinforcers. Joe will continue to be reinforced with praise alone after all tangibles have been faded.</td>
</tr>
</tbody>
</table>

*(To be Continued)*
Appendix H: Percentage of Non-overlapping Data

Events of In-toilet Elimination for Joe

Days

% Daily Percentage of In-toilet Elimination

Baseline  Phase 1  Phase  Phase 3

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37