EXAMINING THE IMPLEMENTATION OF A FAMILY-CENTRED POSITIVE BEHAVIOUR SUPPORT APPROACH DESIGNED TO BE SIBLING-FRIENDLY: A SINGLE-SUBJECT EXPERIMENTAL INVESTIGATION

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ABSTRACT

Research suggests that being a sibling of a child with an autism spectrum disorder (ASD) may come with unique and challenging experiences not typically experienced by siblings. Children with ASD and their siblings tend to have less close relationships and spend less time together. Siblings of children with ASD may also experience emotional or behavioural adjustment issues, which may be the result of such issues as the amount of problem behaviour exhibited by the child with ASD. Research to date on these sibling dyads has focused on improving interactions between siblings or decreasing challenging behaviour exhibited by the child with ASD toward the sibling. Positive behaviour support (PBS), with its focus on improving child and family quality of life, may offer a more comprehensive approach when intervening with these sibling dyads. The purpose of this study was to assess the effects of a PBS approach designed to be sibling-friendly on the challenging behaviour and participation of a child with ASD in two routines involving sibling interaction. Study participants included a child with ASD and an intellectual disability, her older typically developing sister, and their mother. Settings were a sibling play routine and a morning self-care routine in the family’s home. Dependent measures included routine steps successfully completed and problem behaviour. The study employed a single-case, multiple probe design across two routines, in combination with a one-point treatment withdrawal phase in the first routine. Due to professional requirements to graduate in the May convocation, the study was completed through baseline measurement in the two routines, and PBS plan design and initial training and support in the first routine. Preliminary results are discussed in terms of cautions and limitations, and directions for future research.
PREFACE

This research was approved by the Behavioural Research Ethics Board at the University of British Columbia. The certificate number for the ethics certificate is: H13-00202.
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1 INTRODUCTION

The core diagnostic criteria for autism spectrum disorders (ASD) include impairments in social interaction, impairments in communication, and repetitive or stereotyped behaviour, interests, and activities (American Psychiatric Association, 2000). The presence of these types of impairments may lead to the occurrence of challenging behaviour (Matson & Rivet, 2008).

Being a sibling of a child with ASD may come with some unique and challenging experiences not typically experienced by siblings. Mascha and Boucher (2006) interviewed adolescent siblings of individuals with autism and found that the majority reported some positive aspects of being a sibling of someone with autism. However, they also reported many negative experiences, especially regarding problem behaviours and aggression. Many reported feeling embarrassed by their sibling with ASD, and there were some siblings who reported there were no positive aspects of their sibling with ASD (Mascha & Boucher, 2006). Another study has found that the most commonly reported issue by siblings of children with ASDs was aggression and anger was their most common response (Ross & Cuskelley, 2006).

Research has also shown that the interaction patterns between children with ASDs and their typically developing siblings differ from those between children with Down syndrome and their siblings and between two typically developing siblings (Kaminsky & Dewey, 2001; Knott, Lewis, & Williams, 1995; 2007). Knott, Lewis, and Williams (1995) compared the sibling interactions between children with autism and their siblings and children with Down syndrome and siblings. This study found that siblings that included a child with autism spent less time together than siblings that included a child with Down syndrome. In both groups, the sibling initiated more prosocial and antagonistic behaviours than the child with a disability, however children with Down syndrome initiated significantly more prosocial and antagonistic behaviours,
as well as a wider variety of types of initiations, than children with ASDs. Children with ASDs responded significantly less often to their siblings’ initiations and imitated their siblings less often than children with Down syndrome (Knott, Lewis, & Williams, 1995). In a sample of 90 8-18 year old siblings of individuals with a disability, those with siblings with autism had a sibling relationship characterized by less intimacy, prosocial behaviour, and nurturance, when compared to siblings of individuals with Down syndrome or a normative sample (Kaminsky & Dewey, 2001).

More positively, in a follow-up to their 1995 study, Knott, Fiona, and Lewis (2007) found that interactions between children with ASDs and their siblings increased over time, although most of the increase was due to the sibling. Another study found that siblings of individuals with both autism and Down syndrome had greater admiration of their sibling, and their relationship was characterized by less quarreling and competition than a normative sample (Kaminsky & Dewey, 2001).

These relationships differences appear to continue throughout adulthood, with adult siblings of individuals with ASDs spending less time with and having a less close relationship with their sibling with ASD than compared to sibling dyads including an individual with Down syndrome. The siblings of individuals with Down syndrome were more optimistic of their siblings’ future (Orsmond & Seltzer, 2007). A study that interviewed 119 eleven to seventeen year old adolescent siblings of individuals with ASD or Down syndrome found that siblings of children with Down syndrome reported a better sibling relationship quality than siblings of children with ASD. Furthermore, siblings of both disability types who reported more negative interactions also reported higher levels of anxiety (Pollard, McNamara Barry, Freedman, & Kotchick, 2012). Hodapp and Urbano (2007) found adult siblings of individuals with Down
syndrome had closer, warmer relationships with their sibling than compared to siblings of individuals with autism. They also found that having a closer sibling relationship was associated with more frequent and lengthy contacts. In a sample of 411 families with an individual with an intellectual disability aged 15-66, only 20% of these individuals received instrumental support from their sibling (most commonly errands and home repairs), however 80% received some emotional support from at least one sibling (Seltzer, Begun, & Krauss, 1991).

While the research investigating the interaction patterns between individuals with autism and their siblings is consistent, the research investigating the social, emotional, and behavioural adjustment of siblings of individuals with autism appears contradictory. There are a number of studies that have found no significant differences in the adjustment of these siblings and normative samples (Dempsey, Llorens, Brewton, Mulchandani, & Goin-Kochel, 2012; Hastings, 2003a; Kaminsky & Dewey, 2002; Mates, 1990; Pilowsky, Yirmiya, Doppett, Gross-Tsur, & Shalev, 2004; Tomeny, Barry, & Bader, 2012). For example, Quintero and McIntyre (2010) collected parent and teacher reports about the social, behavioural, and academic adjustment of 20 siblings of children with ASD and 23 siblings of developing children and found no significant differences between the two groups on any measure. One study even found that siblings of children with ASDs had a more positive self-concept than siblings of typically developing children (Macks & Reeve, 2007). Some studies that have compared the adjustment of siblings of children with ASD with siblings of individuals with Down syndrome, other developmental disabilities, and intellectual disabilities also found no significant differences (Hastings, 2007; Kaminsky & Dewey, 2002).

At the same time, there are numerous studies that have found siblings of individuals with ASD to be at greater risk of developing social, emotional, or behavioural problems (Bagenholm
& Gillberg, 1991; Benson & Karlof, 2008; Gold, 1993; Hastings, 2003b; Meyer, Ingersoll, & Hambrick, 2011; Petalas, Hastings, Nash, Lloyd, & Dowey, 2009; Verté, Roeyers, & Buysse, 2003). For example, Hastings (2003b) found that siblings of children with ASD had more peer problems, increased adjustment issues, and lower prosocial behaviours when compared to children in a normative sample. Petalas, Hastings, Nash, Lloyd, and Dowey (2009) compared the adjustment of siblings of children with intellectual disabilities with or without autism and found that children with ASD and ID had more emotional issues than siblings of children with ID alone or a normative sample.

While the presence of studies with siblings that experienced no adjustment issues show that not every sibling of an individual with autism will have adjustment problems, some of these studies suggest that adjustment problems may be the result of more complex issues, such as the amount of problem behaviour exhibited by the child with ASD (Hastings, 2003a; Hastings, 2007), maternal well-being (Quintero & McIntyre, 2010), birth order (Tomeny, Barry, & Bader, 2014), and the presence of demographic risk factors (Macks & Reeve, 2007). Other studies have shown that adjustment issues increase as symptom severity increases (Meyer, Ingersoll, & Hambrick, 2011) or if the sibling also has a diagnosed disability (Benson, & Karlof, 2008). Another possible factor may be the presence of the broad autism phenotype (BAP) in siblings. Research has shown that young siblings of children with ASD may be below average in expressive language, receptive language, adaptive behaviour, social-communication skills, and IQ; and they may use fewer words and nonverbal gestures when compared with siblings of typically developing children (Toth, Dawson, Meltzoff, Greenson, & Fein, 2007; Yirimiya, Gamliel, Pilowsky, Feldman, Baron-Cohen, & Sigman, 2006). Furthermore, positive associations between greater expressions of BAP and adjustment difficulties have been found (Meyer,
Ingersoll, & Hambrick, 2011; Petalas, Hastings, Nash, Hall, Joannidi, & Dowey, 2012). Petalas and colleagues (2012) administered questionnaires to 166 families assessing the emotional and behavioural adjustment of children with ASD and their TD siblings, severity of ASD, sibling relationship quality, and parental mental health. They found that sibling adjustment was most associated with the severity of challenging behaviour of the child with ASD and the TD sibling’s expression of the BAP. The behaviour problems of TD siblings with more BAP features were positively associated with the behaviour problems of their siblings with ASD. Moreover, sibling relationship quality tended to be poorer for siblings with more BAP features who had parents with mental health problems.

Sibling relationships can be important relationships that last throughout the lifespan and have an important developmental influence. Research suggests that: (a) the quality of sibling relationships is associated with adjustment outcomes; (b) siblings can serve as a source of support during stressful life circumstances; (c) sibling relationships may play a role in the developmental of social understanding; and (d) sibling relationships are associated with later peer relationships (Brewton, Nowell, Lasala, & Goin-Kochel, 2012; Dunn, 2002; Matthews, Goldberg, & Lukowski, 2013; Pollard et al., 2012). Siblings of children with ASD have unique experiences that can influence many aspects of their lives. Studies examining the subjective perceptions and experiences of siblings of individuals with ASD have found that there is much variability in the quality of sibling relationships and effects of the individual with ASD on the life of the sibling (Angell, Meadan, & Stoner, 2012; Petalas, Hastings, Nash, Reilly, & Dowey, 2012; Tozer, Atkin, & Wenham, 2013, Tsao, Davenport, & Schmeige, 2012). While some siblings of individuals with ASD have generally good relationships with their sibling and do not feel any negative impact, there are many siblings who describe negative impacts such as a
chaotic home life revolving around autism, challenging behaviours and aggression exhibited by the child with ASD, embarrassment and negative reactions from others in the community, a misunderstanding and a lack of support from peers and extended family members, an increased sense of obligation and duties for care-giving and household chores, feeling not involved enough in treatment, and worrying about the future (Angell et al., 2012; Petalas et al, 2012; Tozer et al., 2013; Tsao et al., 2012). Suggested implications from these studies include providing TD siblings of children with ASD increased social support, including contact with others who understand the unique situation, teaching TD siblings strategies to assist their siblings with ASD, teaching TD siblings how to deal with other’s reactions, communicating with TD siblings about their concerns about their sibling with ASD’s future, and acknowledging and including TD siblings in social care policy and practice (Angell et al., 2012; Petalas et al, 2012; Tozer et al., 2013,). Tsao and colleagues (2012) suggest important parenting implications, such as monitoring differential treatment and communicating with TD siblings about differential treatment that cannot be changed, having open communication with TD siblings about any concerns, thoughts, or emotions they may have about their sibling with ASD, and monitoring and discussing any additional care-giving or household responsibilities that the TD sibling may have. They also suggest more intensive strategies, such as parents being trained to teach social skills and promote positive behaviour between the siblings, including a sibling play intervention as a program in early intervention, and enrolling the TD sibling in a support group such as Sibshops to help the TD sibling develop more positive feelings about their sibling and coping strategies (Tsao et al., 2012).

Due to the problems that can exist between children with ASD and their TD siblings and the role siblings may play in the lives of individuals with ASD as they both age, it is important to
improve these sibling relationships by increasing the amount and quality of interaction and decreasing challenging behaviour.

There are a number of factors that could explain the challenges faced by these sibling dyads, such as parental differential treatment, parental stress, or the presence of challenging behaviour and skill deficits in the child with ASD or possibly the TD sibling. It is likely that every family faces different challenges which are influenced by different factors, and will need individualized assessment and intervention to address the specific issues they face. Intervention research focused on the sibling dyad has either sought to improve interactions between siblings or decrease challenging behaviour between siblings or directed toward one sibling by the other.

Interventions focused on improving sibling interaction have found success with teaching the TD sibling directly how to interact properly with their sibling with a disability, teaching the parents how to facilitate interactions between their children, and systemically selecting toys and activities to promote interaction between siblings. The most common approach appears to be directly teaching one or both siblings how to play and interact appropriately (Celiberti & Harris, 1993; Hancock & Kaiser, 1996; James & Egel, 1986; Kennedy & Kramer, 2008; Kim & Horn, 2010; Oppenheim, Leaf, Dozier, Sheldon, & Sherman, 2012; Trent, Kaiser, & Wolery, 2005; Tsao & Odom, 2006; Walton & Ingersoll, 2012). Celiberti and Harris (1993) taught siblings of children with ASD how to encourage their siblings with ASD to engage in play and speech, how to reinforce their sibling for engaging in these behaviours, and how to prompt their sibling when there was no response by directly teaching the skills using modeling, practice and feedback. All three siblings mastered and generalized these skills and naive observers rated the changes in playtime as socially significant. Another study taught siblings of children with ASD skills such as how to get their sibling’s attention, how to find conversation topics, how to create
opportunities for turn-taking and sharing objects, and how to understand what their sibling wants using a training protocol that included: (a) introducing the new skills; (b) reading a story about using the skill; (c) modeling examples of the skill; (d) having TD siblings practice the skill; and (e) encouraging and prompting use of skills with their sibling. Results showed modest improvements in social interactions and joint attention in three out of the four sibling dyads, however the children with ASD did not increase in social initiations, and generalization to settings outside the home did not occur (Tsao & Odom, 2006). Similar strategies have been shown to be effective in teaching siblings of children with Down syndrome to imitate the nonverbal behaviour of their sibling and repeat verbalizations, describe actions, and respond to all verbalizations using an information manual, discussion and questions, modeling and role play, and feedback on play interactions (Trent, Kaiser, & Wolery, 2005). Siblings of children with cerebral palsy and intellectual disability have been taught how to initiate interactions, prompt responses, and reinforce using modeling, practice, and feedback (James & Egel, 1986).

Another approach to encourage interactions between children with ASD and their typically developing siblings involves strategically choosing toys or games to use during free play situations (Baker, 2000; Sautter, LeBlanc, & Gillet, 2008). Baker (2000) prompted children with ASD and their typically developing siblings to play age-appropriate games that were modified to include the child with ASD’s ritualistic interests. All participants showed improvement in social interaction and joint attention, showed large decreases in ritualistic behaviours, and the effects generalized to other games and settings. Sautter, LeBlanc, and Gillet (2008) used free operant preference assessments to assess the effects of different types of toys on the frequency and quality of social interactions between children with ASD and their TD siblings during free play. Moderately preferred developmentally-oriented toys resulted in the most social
interaction between siblings and the least amount of challenging behaviour. Low preference toys resulted in the highest amount of social initiations and positive responses to initiations. Highly preferred toys were the most problematic; they tended to result in more challenging behaviour and less interaction.

Another effective approach to encouraging sibling interactions is training parents to encourage appropriate interactions (Strain & Danko, 1995; Tiedemann & Johnston, 1992). For example, Strain and Danko (1995) taught parents how to encourage positive interactions between their child with ASD and TD child, with skills such as how to get the other child’s attention, how to share/ask for toys, how to give play ideas, how to help or receive help from the other child, and how to talk to the other child nicely. Parents were given strategies such as modeling the skill, practicing the skill with the child, getting the child to practice with the other child, prompting the children to perform the skills at appropriate times, and providing praise and rewards for using the skills. Parents were successful at encouraging interactions between their children and found the intervention to be helpful, simple, and worthwhile. Parents also stated their intention to continue using the intervention and that they believed their children enjoyed it.

Another approach is implementing a group intervention for siblings of individuals with disabilities (Granat, Nordgren, Rein, & Sonnander, 2012; Kennedy & Kramer, 2008). The More Fun with Sisters and Brothers program, developed to improve sibling relationships between typically developing siblings, involves teaching siblings how to initiate play with other siblings, how to accept invitations to play from siblings, how to decline an invitation from siblings appropriately, how to take the perspective of another person, how to identify feelings in self and others, how to regulate emotions, and how to solve problems and manage conflict. In a study comparing 55 families enrolled in the program to 40 families on the waitlist, the siblings who
participated in the program experienced improvements in both emotional regulation and sibling relationship quality, while also needing less parental direction to control emotions and actions (Kennedy & Kramer, 2008). Another group intervention sought to increase the knowledge of a sibling’s disability and improve sibling relationship quality in 54 siblings aged 8-12 years of children with ADHD, Aspergers, ASD, physical disability, and intellectual disability. The intervention consisted of teaching the TD siblings about their sibling’s particular disability and teach them to use problem-solving strategies for dealing with the sibling relationship. Results showed that sibling knowledge increased significantly and while sibling intimacy decreased because the siblings spent less time together, the siblings enjoyed their time together more, and there was less nurturance and dominance in the sibling relationship (Granat et al., 2012).

While these interventions have been shown to be effective in improving the interaction between siblings, they only address one aspect of the problem, and they only focus on one type of interaction (i.e., during play). There have been interventions to reduce the challenging behaviour exhibited by a child with ASD towards infant or toddler siblings. Strategies used in these interventions include conducting a functional assessment to determine the function of the challenging behaviour, collaborating with parents and siblings to develop appropriate interventions, teaching appropriate replacement behaviours, and environmental rearrangement (Barry & Singer, 2001; Koegel, Stiebel, & Koegel, 1998). Barry and Singer (2001) reduced aggression in a child with ASD toward his infant sibling by using a clinician-implemented intervention, which was then faded to self-monitoring. Aggressive behaviours included smothering, dangerous use of the stroller, shaking, encouraging the infant to climb the stairs, choking, and encouraging the infant to climb chairs. An informal functional assessment suggested that the function of these behaviours was attention. The typically developing siblings
then were observed interacting with the infant to determine appropriate replacement behaviours. The replacement behaviours identified included talking to the infant, bringing the infant a bottle, pacifier, or toy, walking slowly with the stroller, playing hide and seek, and reading a book in a chair with the infant. Which of these behaviours were taught depended on the aggressive behaviour targeted and changed slightly as the infant grew older. The same intervention was implemented for all six aggressive behaviours. The intervention consisted of the researchers: (a) teaching the child to perform the appropriate replacement behaviours; (b) teaching the child to record his own use of aggressive and appropriate behaviours and to request reinforcement from his parents for accurate self-monitoring; (c) coaching the parents and siblings to decrease attention after aggression and increase attention after appropriate behaviours; and (d) teaching the child to notice the infant’s emotional expressions. The intervention was extremely successful in reducing aggression and increasing appropriate behaviour toward the infant sibling, and results maintained at 1 and 3 month follow-up. The intervention proved to be socially valid, as the parents, once considering removing the child with ASD from the home, decided to keep him at home after the success of the intervention.

Koegel, Stiebel, and Koegel (1998) looked at the effectiveness of a parent-implemented intervention, using functional communication training and ecological manipulations, on reducing aggression in three children with ASD toward their infant siblings. Data were collected on the occurrence, antecedents, and consequences of aggressive behaviours. The first phase of the intervention included the identification of stimuli associated with aggression. The parents and clinician created an intervention plan that included strategies for minimizing these stimuli. Second, the clinician assisted the parent in teaching and prompting the child to engage in appropriate replacement behaviours that resulted in the same function as the aggressive
behaviours. Finally, clinician assistance was faded when the child and parent began to engage in these behaviours spontaneously. Results showed the intervention to be very effective, with aggression decreasing to zero or near zero levels and appropriate behaviours increasing in all three children. Increased levels of parent happiness, child happiness, and strangers’ comfort level when observing the interactions showed the intervention to be socially valid.

While these interventions were very effective at reducing challenging behaviour, there is a need for research with older TD siblings, giving both siblings skills to promote healthy sibling relationships that can last throughout the lifespan. Positive behaviour support (PBS) may be able to address some of the limitations of previous sibling-focused interventions. PBS is an approach to challenging behaviour that combines multiple evidence-based intervention strategies to reduce challenging behaviour and improve the quality of life of the focus individual and other involved individuals. PBS combines setting event, preventive, teaching, and consequence strategies as a way to address all aspects of problem behaviour in natural settings such as the home. An important emphasis of PBS is collaboration with the family, others who work with the focus individual, and possibly the focus individual to ensure the intervention has good contextual fit (i.e., is feasible and fits within the family’s values, beliefs, and routines). For many individuals with disabilities, including ASD, PBS interventions have been shown to be an effective way to reduce many different types of challenging behaviour and teach individuals more appropriate ways of meeting one’s needs (Dunlap & Fox, 2009; Dunlap, Sailor, Horner, & Sugai, 2009; Horner, Albin, Todd, & Sprague, 2006).

Research suggests that there is no significant effect of applied behaviour analysis programs for children with ASD on a TD sibling’s behavioural adjustment, sibling relationship quality, or self-concept (Cebula, 2012). However, the research described above suggests there
are many benefits for both the TD sibling and the sibling with ASD when the TD sibling is actively involved in treatment. The purpose of the current research is to examine the extent to which a family-centred PBS process proposed to be (i.e., hypothesized to be) sibling-friendly can be effective in improving the relationship and decreasing challenging behaviour between children with ASD and their TD siblings in family activity settings in which sibling interaction is common. In order to ensure good contextual fit and that all relevant issues are addressed, there needs to be a way to assess the current sibling relationship and what the family hopes to achieve with the intervention. To this end, I conducted a semi-structured interview with the parents and TD sibling using a sibling ecology assessment consisting of three sections: (a) activities in which the siblings interact with each other; (b) qualities of interaction that the siblings use with each other; and (c) sibling concerns and opportunities.

The first section of the sibling ecology assessment is based on research investigating interventions to improve sibling relationships. The following four types of sibling activities have been used as a focus of intervention: (a) play activities, such as cooperative play and games (Barry & Singer, 2001; Celiberti & Harris, 1993; Koegel et al., 1998; Tsao & Odom, 2006); (b) leisure activities (i.e., activities done for fun but do not involve much direct interaction), such as watching TV or movies, reading, or biking (Barry & Singer, 2001; Strain & Danko, 1995; Tiedemann & Johnston, 1992); (c) care-giving activities, such as helping a sibling set up an activity or making a snack for a snack for a sibling (Barry & Singer, 2001); and (d) shared routines, such as meals or car rides (Koegel et al., 1998). The sibling ecology assessment includes questions asking the parents and TD sibling to name specific examples of play, leisure, care-giving, and shared routine activities that are common in the relationship between the target child and TD sibling. Based on the activities mentioned in their responses, participants
responded to questions about the positive and negative aspects of each activity, the activities that are missing, what they would like each activity to look like, and the importance of each activity.

Furman and Buhrmester (1985) conducted open-ended interviews with forty-nine elementary school children regarding the qualities of sibling relationships and found fifteen common qualities: (a) prosocial behaviour; (b) nurturance of sibling; (c) nurturance by sibling; (d) affection; (e) companionship; (f) similarity; (g) intimacy; (h) admiration of sibling; (i) admiration by sibling; (j) dominance by sibling; (k) dominance of sibling; (l) antagonism; (m) competition; (n) quarrelling; and (o) parent partiality. The second section of the sibling-ecology assessment, focusing on interaction qualities, includes questions based on the first fourteen qualities. The third section, focusing on parental involvement, includes questions based on the last quality (i.e., parental partiality). For each interaction pattern, the parents and TD sibling described: (a) the state of the current situation; (b) what they would like the situation to look like; and (c) the importance of that particular interaction pattern. The final section focuses on unique concerns (e.g., parental partiality, embarrassment, future concerns, etc.) and opportunities (e.g., learning opportunities, positive experiences, etc.) that siblings of individuals with special needs may face. Questions from this section have been developed based on themes discussed by sibling expert Don Meyer (Meyer, 1994a; 1994b; 2013, November). During this part of the assessment, the TD sibling was asked to share their thoughts, feelings, and experiences that may provide insight that contributed to the development of a sibling-friendly PBS intervention plan.

This study included the following components: (a) comprehensive assessment (i.e., functional assessment, family ecology assessment, sibling relationship assessment); (b) development of a PBS plan; (c) development of an implementation plan; (d) implementation support including initial training and maintenance support; and (e) ongoing evaluation, including
a global assessment of sibling relationship quality. This study uses a mixed single-case research design; specifically, a multiple probe design across two routines was implemented, in combination with a one-point treatment withdrawal phase in the first routine to answer the following experimental research question: Is there a functional relation between the implementation of a family-centred positive behaviour support plan designed to be sibling-friendly and improvements in challenging behaviour in a child with ASD, the number of steps completed in a routine, and improvements in the quality of interaction between siblings, for a child with ASD and his/her typically developing sibling in a home setting? Two descriptive research questions include: (a) Is there an association between implementation of a family-centred positive behaviour support plan designed to be sibling-friendly and improvements in scores on the Sibling Relationship Questionnaire, for a sibling of a child with ASD in the home?; and (b) will the PBS plan have social validity, as measured by parent and sibling perceptions of the importance, acceptability, usefulness, ease of implementation, and outcomes of the intervention? Due to professional requirements to graduate in the May convocation, this study is currently in the initial training phase in the first sibling routine. The remaining procedures and components of the study will be completed following thesis defense under the supervision of the Principal Investigator of the study, Dr. Joe Lucyshyn.
2 RESEARCH METHODOLOGY

Preliminary Screening Process

Participants\(^1\). One family of a child diagnosed with autism and one typically developing child participated in the study. The target child, Ramona, was a healthy 5 year-old girl diagnosed with autism and an intellectual disability. Ramona had limited verbal communication skills; Ramona had only a few spoken words and signs in her repertoire. Sascha was Ramona’s 10-year old TD sister. Ramona and Sascha lived with their mother, Jennifer, and their father, Leonard in a basement apartment in British Columbia. All family members were of Chinese descent, with both parents having been born in China, while both children were born in North America. Both parents and the TD child were fluent in English. When the study began, Ramona engaged in several problem behaviours throughout the day including noncompliance, physical resistance, negative vocalizations (i.e., whining, crying, and screaming), flopping on the ground, elopement, low intensity destructive behaviour (i.e., knocking over, kicking, objects), and low intensity physical aggression (i.e., hitting and kicking).

Ramona and her family were recruited through contact with professional agencies providing referral and intervention services to families of children with autism in British Columbia. All agencies were asked to distribute a letter of initial contact (see Appendix A) providing an overview of the study and research procedures to families who met the recruitment criteria described in the letter. Families who expressed interest in participating were then asked to contact the Principal Investigator or myself, or to provide their contact information in order to participate in a pre-screening phone interview to determine whether their child and family met the eligibility criteria for the study (see Appendix B).

\(^1\)All names are pseudonyms
Ramona’s family was identified as being eligible to participate in the study. Her family met the following criteria: (a) the target child was between the ages of five and ten years old; (b) the target child had a formal diagnosis of autism; (c) the sibling was between the ages of seven and twelve years old; (d) the sibling had no known diagnosis (i.e., was typically developing); (e) the target child engaged in observable mild to moderate challenging behaviour in a minimum of two documented routines involving sibling interaction; (f) the TD sibling was willing to act as an interventionist throughout the intervention and research process; (g) the child was not receiving an early intervention services outside of the study that specifically aimed to improve challenging behaviour within the two sibling routines targeted for intervention; (h) both parents/guardians spoke English proficiently; (i) both parents consented to have an observer videotape sibling interactions during the two target routines; (j) neither parent perceived themselves to be in a “crisis” situation due to the child’s challenging behaviour or other family issues related to their child (e.g., marital strain, psychological or physical illness in an immediate family member); (k) the family was willing to participate in the study for a minimum of one year; and (l) the family lived in the lower mainland of British Columbia, and was not planning to move away within the next 12 months.

Once the family was identified as potential participants, I conducted a pre-screening phone interview with the parents to initially determine whether the family met the inclusion criteria. When the inclusion criteria appeared to be met, the purpose and general procedures of the study was then be discussed with the parents in greater detail. When the parents expressed an interest in participating, they were asked to participate in a preliminary screening process and were given a screening consent form to sign (see Appendix C). After the preliminary consent form had been signed, an initial screening interview and observations were conducted in the
home to confirm that sufficient challenging behaviour existed within two sibling routines (see Appendix D). When I determined that the family fully met the inclusion criteria, the parents were asked to sign two informed consent forms, one for participation in the study outlining the purposes, procedures, and timeline of the study, and one for permission to videotape the children and family in the home as needed (see Appendix E). When the form was signed, the family became the participants for this study.

**Settings.** All intervention and data collection took place in the family’s home. During preliminary start-up procedures, the family and I collaboratively selected and defined two valued routines involving sibling interaction for intervention. Two assessments were used to select and define routines; a family routine assessment protocol developed by Lucyhsyn and colleagues (2002) and Part A of the Sibling Ecology Assessment (see Appendix F and Appendix G). Target routines included: (a) a morning self-care routine; a routine which the family did not engage in due to challenging behaviour, yet one they highly valued and prioritized for intervention to increase independence in Ramona and increase helping skills in Sascha; and (b) a turn-taking game routine; a routine which was rarely engaged in due to challenging behaviour, yet also highly valued and prioritized to increase sibling interaction. For each routine, data collection and training took place in a particular room in the house (i.e., the bathroom during the morning self-care routine, the bedroom during the turn-taking game routine).

**Measurement**

**Data collection.** All observation sessions took place in the home and were recorded with a digital video camera by myself, the interventionist. Observation sessions were scheduled at a time that was convenient for the family and was consistent with the occurrence of the selected routines (e.g., all sessions pertaining to the morning self-care routine occurred at the desired time
in the morning, and all sessions pertaining to the turn-taking game routine occurred at the desired
time during the evening, after dinner). Experimental sessions during baseline were conducted at
regular intervals (i.e., once or twice a week). Experimental sessions during intervention will
continue to be conducted at regular intervals (i.e., every second to fourth training session).
Ramona and her family participated in a total of 6 experimental observation sessions, all of
which occurred during the baseline phase in the morning self-care and turn-taking game routines.
These sessions occurred over a span of three weeks, and each session lasted for a maximum of
30 minutes. In order to ensure that Ramona and her family members were physically and
psychologically safe during the observation sessions, a criterion level of challenging behaviour
was determined collaboratively with the family for the routines, the occurrence of which lead to
an immediate termination of the videotaped observation.

At the beginning of each observation session, the video camera was set up, the definition
of the routine read aloud, and the criterion level of challenging behaviour that would result in
termination of the session was reviewed. During observation sessions, the interventionist
followed a protocol shown to be effective in family-centered PBS research (Binnendyk &
Lucyshyn, 2009; Lucyshyn, Albin, & Nixon, 1997). The protocol involved the interventionist:
(a) confirming the time and place of the observation session with parents or other key
stakeholders; (b) arriving approximately 15 min before the experimental session and ensuring
that all necessary materials for the target routine are present and functioning; (c) asking the
relevant family members to review the operational definition of the routine; (d) setting up the
video camera such that the child and family members participating are in view; (e) asking the
family members to initiate the target routine; and (f) videotaping for a minimum of 3 min or until
the routine has been completed successfully. Sessions were required to be at least 3 min to allow
for comparisons of interval data. If the child engaged in challenging behaviour that met the
criteria for termination before 3 min had elapsed, videotaping continued until three minutes of
video had been recorded. If a session was terminated because of challenging behaviour, the
camera was turned off and if necessary, assistance was provided to the family. All members were
reminded that they were allowed to take a break at any time, and in such cases the video camera
was turned off until the family member was ready to try again. Furthermore, the family was
reminded that they were free to end an observation at any moment, no matter what the reason.
The children did not appear reactive to my presence.

Three baseline observation sessions were conducted during each the morning self-care
and turn-taking game routines. At this point, no intervention observation sessions have been
conducted. During each observation, percentage of intervals of child challenging behaviour,
latency until termination or successful completion of the routine, and percentage of steps
completed were coded. Once intervention observation sessions are completed, parent and sibling
implementation fidelity data will be coded for a minimum of 33% of all intervention sessions.
Data collected was later coded and analyzed in a research laboratory at the University of British
Columbia. A graduate student served as an independent observer to code data to calculate
interobserver agreement scores.

**Computer-based data coding.** All data collected during observation sessions were
transferred from a digital video camera onto the hard drive of a desktop computer, located in the
laboratory of the Principal Investigator with the Faculty of Education building at the University
of British Columbia. A software media program was used to play each video file, and a trained
coder (i.e., myself or another graduate student) coded interval data for child challenging
behaviour, latency to termination, and successfully completed steps in the routine. Data sheets (see Appendix H) and pencils were used for coding by the two coders.

**Dependent variables.** To assess the target child’s challenging behaviour and routine participation by both children, two dependent variables were measured directly: (a) challenging behaviour exhibited by the target child; and (b) successfully completed steps in the routine. Four additional dependent variables that have been partially measured or are yet to be measured include: (a) accurate usage of the behaviour support strategies by the sibling and parents; (b) social validity of the PBS approach; (c) the support plan’s contextual fit within the routines and with the ecology of the sibling and family; and (d) the quality of the sibling relationship.

**Challenging behaviour.** Child challenging behaviour data were collected during each experimental observation session during baseline within the morning self-care and turn-taking game routines. Challenging behaviours were determined through collaboration with Ramona’s mother and sister, and were divided into the following categories: (a) negative vocalizations; (b) physical aggression; (c) physical resistance; (d) elopement/leaving the assigned area; (e) disruptive/destructive behaviours; (f) inappropriate physical interference; and (g) non-compliance. See Table 2.1 for operational definitions of Ramona’s challenging behaviours.
Table 2.1

**Operational definitions of Ramona’s challenging behaviours**

<table>
<thead>
<tr>
<th>Category</th>
<th>Operational Definition</th>
<th>Child-Specific Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative vocalizations</td>
<td>• Nonverbal vocalizations with an agitated, distressed, or negative tone. They can range from low to high intensity.</td>
<td>• Whining, crying, screaming</td>
</tr>
<tr>
<td>Physical aggression</td>
<td>• Negative physical contact toward another person</td>
<td>• Hitting, kicking a person</td>
</tr>
<tr>
<td>Physical resistance</td>
<td>• Physically resisting assistance or restraint (i.e., pulling away own body part or pushing away other’s body part)</td>
<td>• Pushing another person away or pulling own body part away when someone is providing physical prompts</td>
</tr>
<tr>
<td>Elopement/leaving assigned area</td>
<td>• Physically leaves the area designated for routine or moves/turns full body away from parent/sibling without immediately turning back during a task or activity</td>
<td>• Leaving bathroom before completing routine, getting off stool in bathroom before tasks at sink are completed, moving more than one foot away from game</td>
</tr>
<tr>
<td>Disruptive/destructive behaviours</td>
<td>• A range of behaviours that are disruptive to routine success or are destructive to objects</td>
<td>• Grabbing items from another person, flopping body onto floor, knocking items off/over, kicking or hitting objects, removing hair clip</td>
</tr>
<tr>
<td>Non-compliance</td>
<td>• Failure to comply with a demand/request 10 seconds after which it was given; may include a neutral verbal refusal</td>
<td>• Saying “no”, failing to initiate any type of response to a demand or request from parent/sibling</td>
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</table>
A partial interval recording system using a 10-second interval was used to record data for the baseline phase. For each 10-second interval, an occurrence was scored if any of the target behaviours were observed and a non-occurrence was scored if no target behaviours were observed. The percentage of intervals of challenging behaviour were calculated by dividing the number of intervals of challenging behaviour by the total number of intervals and multiplying by 100. This procedure will also be used to record data during the intervention, maintenance, and follow-up phases.

Successfully completed steps in the routine. The family and I developed an operational definition of each routine and the steps involved during the preliminary start up procedures. The procedure for defining each successful step included: (a) identifying each step within the two target routines; (b) defining the number of times a step must occur, for steps that can occur more than once (e.g., taking a turn appropriately for 80% or more of all opportunities during a game); (c) defining a criterion for success for steps that involved a targeted level of performance; (d) determining the level of child challenging behaviour that would result in that step being unsuccessful (i.e., three instances of minor problem behaviour such as non-compliance, physical resistance, and minor negative vocalizations, or one instance of major problem behaviour such as physical aggression or crying); and (e) defining the level of independence required by the child in order to consider a step completed successfully (i.e., a step was considered successfully completed even if prompting occurred, so long as Ramona did not engage in the criterion level of challenging behaviour described above). See Table 2.2 for a list of target steps for the morning self-care and turn-taking game routines.
Table 2.2

Target steps for Ramona’s morning self-care and turn-taking game routines

<table>
<thead>
<tr>
<th>Morning self-care routine</th>
<th>Turn-taking game routine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine steps</td>
<td></td>
</tr>
<tr>
<td>1. Go to washroom</td>
<td>1. Sit down in a spot with sibling and be ready to play</td>
</tr>
<tr>
<td>2. Pick up wash cloth</td>
<td>2. Choose a game to play</td>
</tr>
<tr>
<td>3. Turn on tap</td>
<td>3. Decide with older sibling who goes first</td>
</tr>
<tr>
<td>4. Wet cloth</td>
<td>4. Follow the rules or adapted rules of the game</td>
</tr>
<tr>
<td>5. Turn off tap</td>
<td>5. Take turn</td>
</tr>
<tr>
<td>6. Wash face</td>
<td>6. Wait for sister to take turn</td>
</tr>
<tr>
<td>7. Put down wash cloth on counter</td>
<td>7. Give sister a high five when game is over</td>
</tr>
<tr>
<td>8. Pump lotion into hand (once)</td>
<td>8. Clean up and put game away</td>
</tr>
<tr>
<td>9. Rub lotion on face</td>
<td></td>
</tr>
<tr>
<td>10. Pick up comb/brush</td>
<td></td>
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<tr>
<td>11. Comb/brush hair</td>
<td></td>
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<tr>
<td>12. Keep hands down while sister puts clip in hair</td>
<td></td>
</tr>
<tr>
<td>13. Keeps hands away from clip</td>
<td></td>
</tr>
<tr>
<td>14. Put on shoes</td>
<td></td>
</tr>
<tr>
<td>15. Leave bathroom and go to mom</td>
<td></td>
</tr>
</tbody>
</table>

For the completed baseline phase, when coding the percentage of steps completed successfully within a routine, coders used a list of target steps for each routine, along with the definitions of successful and unsuccessful completion criteria. For each step, a plus (+) was scored if it was successfully completed and a minus (-) was scored if the step was not successfully completed. Any steps that did not occur due to child meeting the criterion level of challenging behaviour for terminating the routine were scored as ‘no opportunity’ and were counted towards the total number of steps in the routine when determining the total percentage of steps completed successfully. The percentage of steps successfully completed was calculated by
dividing the number of steps successfully completed by the total number of steps in the routine and multiplying by 100. This calculation will be used for the remaining intervention, maintenance, and follow-up phases and will allow for comparisons of the level of success in completing each routine throughout each phase of the study.

**Latency in minutes to termination or to successful completion of the routine.** The measure of latency in minutes to termination or successful completion of the routine was defined as the number of minutes until termination of the routine due to a criterion level of challenging behaviour or until the successful completion of the routine (Carr & Carlson, 1993). A criterion level of challenging behaviour for terminating the routines was defined collaboratively with the mother and sister in order to ensure the physical, psychological, and sociological safety of the child and family. The criterion was defined as follows: (a) one instance of intense crying lasting one minute; (b) three instances of intense crying each lasting less than one minute; (c) two instances of physical aggression; (d) five instances of physical resistance; (e) three instances of leaving assigned area; (f) remaining outside of assigned area for three minutes; (g) three instances of disruptive/destructive behaviours; (h) remaining flopped on the floor for two minutes; (i) five instances of inappropriate physical prompts; (j) ten instances of whining; or (k) ten instances of non-compliance. Latency to successful completion of the two routines was defined as follows: (a) in the morning self-care routine, the number of minutes until all critical steps in the routine were completed without the occurrence of the criterion level of challenging behaviours; and (b) in the turn-taking game routine, a 15-20 minute duration during which steps of the envisioned routine were carried out, while the criterion level of challenging behaviour was not reached.
**Accurate use of behaviour support strategies.** Accurate use of behaviour support strategies was defined as the total percentage of intervals of the implementer’s use of core strategies in Ramona’s behaviour support plan. Once observation data have been collected for intervention, maintenance, and follow-up phases, I will collect data on the percentage of intervals of the implementer’s accurate use of PBS plan strategies in a minimum of 20% of observation sessions in both the morning self-care and turn-taking game routines. A partial interval recording system will be used with an interval length of 30 seconds. During each interval, an occurrence of accurate use will be scored if the implementer accurately uses one or more of the strategies, an occurrence of non-accurate use will be scored if the implementer makes an error while implementing one or more strategies, and a non-occurrence will be scored if the implementer makes no attempt to implement a strategy during a given interval. Percentage of accurate use will be calculated by dividing the number of intervals of accurate use by the total number of intervals and multiplying by 100. Treatment integrity data on the family’s accurate use of PBS plan strategies strengthens the internal validity of the study, in that these data provide evidence that the independent variable was implemented as intended.

**Social validity of PBS approach.** Parents and the TD sibling will complete a social validity questionnaire to assess their level of satisfaction with intervention goals, procedures, and outcomes. Two 10 item 5-point Likert scale (from 1= disagree to 5= agree) questionnaires, were adapted from Lucyshyn and colleagues (1997); one to be completed by the parents and one to be completed by the TD sibling (see Appendix I). The questionnaires will be completed once near the end of the intervention phase for each routine and once during the follow-up phase. Averages for each administration will be calculated as formative ratings of social validity and a total
average across all administrations will be calculated as a summative rating of social validity for both the parents and the TD sibling.

**Contextual fit.** The contextual fit of the PBS plan has been partially evaluated using an adapted questionnaire originally created by Albin, Lucyshyn, Horner, and Flannery (1996; see Appendix J). The questionnaire consists of 20 items rated using a 5-point Likert scale from 1 (little fit) to 5 (a lot of fit). The questionnaire will address areas relevant to contextual fit within the family ecology as a whole (e.g., “Does the plan address your highest priority goals?”) and contextual fit within the ecology of the sibling relationship within a family (e.g., “Does the plan recognize and support the needs of other family members living in the home (e.g., siblings)?”). The parents and the TD sibling each completed this questionnaire after a PBS plan was developed for the morning self-care routine, before beginning the initial training and support sub-phase within the intervention phase of this routine. The parents and TD siblings will both complete this questionnaire again during the intervention phase of the second routine and again during the follow-up phase. I will calculate averages for each administration as formative indices of contextual fit, and a total average across all administrations as a summative index of contextual fit for both the parents and the TD sibling.

**Sibling relationship quality.** Sibling relationship quality has been partially assessed using the Sibling Relationship Questionnaire (SRQ), developed by Furman and Buhrmester (1985; see Appendix K). The SRQ consists of 16 scales measuring different aspects of the sibling relationship (i.e., intimacy, prosocial behaviour, companionship, similarity, nurturance by sibling, nurturance of sibling, admiration by sibling, admiration of sibling, affection, dominance by sibling, dominance over sibling, quarreling, antagonism, competition, maternal partiality, and paternal partiality). Each scale consists of three items rated on a 5-point Likert scale from 1
(hardly at all) to 5 (extremely much). An exception is maternal and paternal partiality, where neither sibling being favoured was scored as 0, either sibling being favoured often was scored as 1, and either sibling being favoured almost always was scored as 2. The SRQ has good test-retest reliability as well as factorial and construct validity (Derkman, Scholte, Van derVeld, & Engels, 2010). The TD sibling and parents completed the SRQ during baseline, and will complete it again at the end of intervention, and during follow-up.

**Interobserver agreement.** A graduate student in the Faculty of Education at the University of British Columbia served as an independent observer to collect interobserver agreement (IOA) data for the baseline phase. IOA data was collected for the following dependent variables: (a) the percentage of intervals of challenging behaviour; and (b) the percentage of intervals of steps successfully completed. Training involved the independent observer reviewing a manual of operational definitions of each applicable dependent measure and receiving direct training in coding the videotapes and using datasheets correctly. Formal data collection began once the independent observer had been trained to a criterion of 85% agreement with me for two consecutive observations for each dependent variable.

Each IOA session included the two independent observers watching a videotape of a session and independently recording data with datasheets for each dependent variable. The observers were separated by one metre and a visual barrier. IOA data were collected for 33% of baseline sessions, balanced across routines. IOA was calculated for each dependent variable by dividing the total number of agreement intervals by the total number of intervals, multiplied by 100. The IOA training and data collection procedure also will occur during the intervention and follow-up phases. In these phases, IOA data also will be collected on the percentage of intervals of implementer accurate use of PBS plan strategies.
**IOA for percentage of intervals of challenging behaviour.** For baseline data, the two observers independently observed a video of an observation session and recorded data on the occurrence of challenging behaviour for each 10-second interval, using a datasheet containing a list of all challenging behaviours. Each observer recorded an occurrence if they observed any of the target behaviours occur during each interval, and recorded a non-occurrence if they did not observe any of the target behaviours occur during each interval. I recorded an agreement if both observers recorded the same data (i.e., both recorded an occurrence or both record a non-occurrence) in the same interval. I recorded a non-agreement if both observers recorded different data (i.e., one scored occurrence and the other scored non-occurrence) in the same interval. Interobserver agreement for the percentage of intervals of problem behaviour was 89% for the morning self-care routine and 89% for the turn-taking game routine. These procedures also will be completed for intervention and follow-up data.

**IOA for percentage of steps successfully completed.** For baseline data, interobserver agreement data was collected for 33% of experimental observation sessions for each routine. Two observers independently observed a video of an observation session and collected data on the steps completed successfully using a datasheet containing a checklist of all of the steps that make up the routine. An occurrence was scored for each step that was completed successfully, a non-occurrence was scored for each step that was not completed successfully, and a missed opportunity non-occurrence was scored for each step that was not completed due to a lack of opportunity. An agreement was recorded for each step that both observers agreed that an occurrence, a non-occurrence, or a missed opportunity non-occurrence occurred and a non-agreement was scored for each step that the two observers recorded a different score. The interobserver agreement for the percentage of steps successfully completed in a routine was
100% for both the morning self-care and turn-taking game routines. The procedures described above also will occur for intervention and follow-up data.

**IOA for latency to termination or successful completion of the target routine.** For baseline data, interobserver agreement for the latency to termination or successful completion of the target routine was calculated for 33% of experimental observation sessions in each routine. The two observers independently observed the same video recording of an observation session. Using a datasheet describing termination criteria and a space to record the time the session was terminated or the last step of the routine was completed, observers indicated: (a) each problem behaviour that occurred before termination criteria was met; and (b) the time at which the termination criteria was met or the time the last step of the routine was completed. A margin of ±5 seconds was used to assess the agreement between times noted by both observers.

Interobserver agreement for termination of the target routine due to child challenging behaviour was calculated by dividing the number of agreements of behaviours and time of termination by the number of agreements plus disagreements and multiplying by 100.

Interobserver agreement for the latency to termination due to problem behaviour was 100% for both routines during the baseline phase. These procedures will continue to be used during the intervention and follow-up phases of the study. During baseline, termination criteria was met for every experimental observation session. During intervention and follow-up, however, it is anticipated that Ramona will successfully complete all the steps in the routines without reaching the termination criteria. When this occurs, interobserver agreement for latency to successful completion of the target routine will be calculated by dividing the number of agreements of behaviours and time that the last step was completed by the number of agreements plus disagreements and multiplying by 100.
**IOA for implementer accurate usage of behaviour strategies.** For intervention and follow-up data, interobserver agreement for implementer accurate use of behaviour strategies will calculated for a minimum of 20% of experimental observation sessions. The two observers will independently observe an observation session and record data on a datasheet containing a list of all the PBS plan strategies. During each 30-second interval, the observers will record an occurrence if the sibling and/or parents accurately use one or more PBS strategies, a non-occurrence if the sibling and/or parents are not observed using any PBS strategies, or an erroneous occurrence if the sibling and/or parents inaccurately uses one or more PBS strategies. I will record an agreement if both observers record the same data (i.e., both record occurrence, non-occurrence, or erroneous occurrence) and a non-agreement if the observers record different data in the same interval.

**Research Design**

This study employed a multiple probe design across the two routines, in combination with a one-point treatment withdrawal phase in the first routine. This design has five phases: (a) baseline, in which the family attempts to implement the target routines; (b) intervention, in which the intervention and maintenance support phases will be completed in the morning self-care routine, and PBS plan development, implementation, and maintenance support phases will be completed in the turn-taking game routine; (c) withdrawal, in which the family will discontinue use of all PBS plan strategies for one observation session during the first routine only; (d) return to intervention, in which the family will reintroduce the PBS plan strategies in the first routine only; and (e) follow-up, in which I will conduct observation sessions approximately one month after completion of implementation support.
A multiple probe design across two routines was chosen for its ability to document socially valid change (i.e., improving behaviour across multiple routines in the home). The design is limited to two routines due to the time and resource constraints of conducting a Master’s thesis. However, to document a functional relation using a multiple baseline design, there must be a minimum of three repetitions of the independent variable. In order to document a functional relation, the TD sibling and parents will withdraw the treatment for one observation session during the first intervention phase of the first routine. Once the data document stable behaviour change, I will tell the TD sibling and the parents to discontinue use of the PBS strategies as much as possible for one observation session. It is hoped that conducting the withdrawal phase soon after implementation of the intervention in the first routine will minimize any learning that may have occurred. If this is the case, the target child’s behaviour should return to near baseline levels.

In collaboration with the family, I have completed the baseline phase of a mixed single-case research design across two routines. The study is currently in the intervention phase of the first routine. The following phases have been completed or partially completed: (a) baseline, in which the sibling attempted to implement the family’s vision of each routine; (b) intervention, in which a sibling-friendly PBS plan was developed for the morning self-care routine, and implementation (i.e., initial training and support) for the morning self-care routine was begun.

**Research and Intervention Procedures**

Research and clinical support procedures for the implementation of a sibling-friendly PBS approach to intervention were completed in the following sequence: (a) preliminary screening procedures and identification of two target routines; (b) baseline; and (c) intervention, including comprehensive assessment and the development and implementation of a behaviour
support plan in the morning self-care routine. Development and implementation of a behaviour support plan in the turn-taking game routine has yet to be completed.

**Preliminary start-up procedures.** Prior to baseline procedures, the family completed three preliminary start-up activities: (a) a brief functional assessment; (b) the first part of the sibling ecology assessment (focusing on activities that the siblings engage in together); (c) the routine assessment, in which the TD sibling and parents selected two valued but problematic routines and define a vision of successful completion for each routine; and (d) behavioural observations to confirm the results from the brief functional assessment. These preliminary procedures helped to identify the behaviours and routines of concern to the family, and provided an early understanding of the stimuli and consequences that controlled Ramona’s challenging behaviour.

During the brief functional assessment, Ramona’s sister and mother were asked to describe the topography, frequency, duration, and intensity of Ramona’s challenging behaviours. They were also asked to describe possible predictors of challenging behaviour as well as possible functions (i.e., what Ramona gains or avoids by engaging in challenging behaviour). A complete functional assessment interview (FAI) was conducted with the family during the comprehensive assessment phase of intervention.

During the preliminary start-up procedures, the mother and sister also completed Part A of the Sibling Ecology Assessment. This section focused on activities that the siblings engaged in together. Ramona’s mother and sister described the kinds of play, leisure, care-giving, and shared routine activities that the siblings engaged in together. They were asked to describe both positive and negative things that may occur when the siblings engage in these activities together. They also described what their goals and expectations were for these activities, if there were any
specific activities that were not occurring that they wish were, and finally, how important it was to them that these types of activities occur and why.

For the routine assessment, I adapted the family routine interview protocols developed by Lucyshyn, Kayser, Irvin, and Blumberg (2002) to look specifically at routines involving sibling interaction. During the assessment, the parents and TD sibling described daily and weekly routines in the home and community that involve both siblings identified during part A of the sibling ecology assessment. For each routine, they provided the following information: (a) time of day/day of the week; (b) type of routine; (c) behaviours of concern; and (d) extent to which the routine was typical and valued. They also were asked to identify routines that they wish the siblings engaged in together but did not feel comfortable doing because of Ramona’s challenging behaviour.

Based on the information obtained from the first part of the sibling ecology assessment and the routine assessment, the parents and TD sibling selected and prioritized two routines for intervention. In order to minimize drift across routines, the family was asked to select two routines that involved different types of activities. The family chose one play routine in which Ramona and her older sister Sascha would play together in one or the other siblings bedroom, and one care-giving routine in which Sascha would help Ramona with morning self-care tasks in the bathroom. The family then defined each routine based on the elements of an activity setting as defined by Gallimore (2005): (a) time/place; (b) people involved; (c) resources required and available; (d) tasks; and (e) goals and values associated with the routine. See Table 2.3 for operational definitions of each routine. The family viewed the play routine as the most important of the two routines. They wished for Ramona to learn how to engage in more age-appropriate activities, but also to interact with her sister in a manner that was similar to typical sibling dyads.
The family also indicated the importance of Sascha serving in a caregiving role with Ramona; specifically, they wanted Ramona to accept help and comply to her older sister’s requests in situations in which the parents were busy or unavailable to help. The family’s choice of a play routine and a care-giving routine appeared to reflect the family’s cultural beliefs and values; that a sibling should be a play partner as well as be able to help with care-giving responsibilities. The family’s choice of a care-giving routine also may have been related to the nature of Ramona’s disability. The older sibling playing a role in care-giving to the younger sibling may be partly attributed to the younger sibling having a severe disability that significantly limited her adaptive functioning within the family.
Table 2.3

Operational definitions of envisioned routines

<table>
<thead>
<tr>
<th></th>
<th>Morning self-care</th>
<th>Turn-taking game</th>
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<tbody>
<tr>
<td><strong>Time/length</strong></td>
<td>8:15 – 8:25 AM; 5-10 minutes or less</td>
<td>Before or after dinner; 15-20 minutes</td>
</tr>
<tr>
<td><strong>Setting</strong></td>
<td>At home, in the bathroom</td>
<td>At home, in either child’s bedroom</td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td>Ramona, Sascha (sibling), and their mother</td>
<td>Ramona, Sascha (sibling), and their mother</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td>Wash cloth, Comb/brush, Hair clips, Lotion, Shoes</td>
<td>Multiple games to choose from (e.g., Pop the Pig, Pop Up Pirate, basketball and net, 2-player turn-taking Ipad game)</td>
</tr>
<tr>
<td><strong>Child tasks</strong></td>
<td>Go to washroom when sister says it is time; Wash face; Put lotion on face; Comb/brush hair; Put on shoes; Go see mom</td>
<td>Sit nicely with sibling and be ready to play; Choose a game to play; Decide who goes first; Take turn; Wait for sister to take turn; Give sister a high five; Clean up and put game away</td>
</tr>
<tr>
<td>Sibling tasks</td>
<td>Morning self-care</td>
<td>Turn-taking game</td>
</tr>
<tr>
<td>---------------</td>
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</tr>
<tr>
<td>Tell Ramona it is time to get ready</td>
<td>Tell Ramona it is time to play a game</td>
<td></td>
</tr>
<tr>
<td>Bring younger sibling to bathroom</td>
<td>Choose a spot to sit</td>
<td></td>
</tr>
<tr>
<td>Provide assistance as necessary for Ramona to complete each step</td>
<td>Offer Ramona choices of games to play</td>
<td></td>
</tr>
<tr>
<td>Put a clip in Ramona’s hair</td>
<td>Set up the game</td>
<td></td>
</tr>
<tr>
<td>Tell mom they are all done</td>
<td>Decide who goes first</td>
<td></td>
</tr>
<tr>
<td>Pack lunch</td>
<td>Follow rules or adapted rules</td>
<td></td>
</tr>
<tr>
<td>Provide help and reinforcement if needed</td>
<td>Provide Ramona with assistance</td>
<td></td>
</tr>
<tr>
<td>Take over with Ramona when they are all done</td>
<td>Give Ramona a high five</td>
<td></td>
</tr>
<tr>
<td>To comply with Sascha’s requests</td>
<td>Clean up and put away game</td>
<td></td>
</tr>
<tr>
<td>To accept help from Sascha</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To improve self-help skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To wear a hair clip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sibling to learn to help/prompt Ramona</td>
<td>To comply with Sascha’s requests</td>
<td></td>
</tr>
<tr>
<td>Sibling to learn how to prevent and deal with challenging behaviour</td>
<td>To cooperate during choices</td>
<td></td>
</tr>
<tr>
<td>Sibling to learn behavioural strategies to use with Ramona</td>
<td>To play a game nicely while taking turns</td>
<td></td>
</tr>
<tr>
<td>Siblings to have a positive relationship</td>
<td>To clean up</td>
<td></td>
</tr>
<tr>
<td>Sibling to help Ramona when parents busy</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Mother’s tasks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pack lunch</td>
<td>Cook dinner (before dinner)</td>
</tr>
<tr>
<td>Provide help and reinforcement if needed</td>
<td>Free time (after dinner)</td>
</tr>
<tr>
<td>Take over with Ramona when they are all done</td>
<td>Provide support and reinforcement when needed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Child-centred goals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>To comply with Sascha’s requests</td>
<td>To comply with Sascha’s requests</td>
</tr>
<tr>
<td>To accept help from Sascha</td>
<td>To cooperate during choices</td>
</tr>
<tr>
<td>To improve self-help skills</td>
<td>To play a game nicely while taking turns</td>
</tr>
<tr>
<td>To wear a hair clip</td>
<td>To clean up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family-centred goals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sibling to learn to help/prompt Ramona</td>
<td>Sibling to learn how to facilitate a game</td>
</tr>
<tr>
<td>Sibling to learn how to prevent and deal with challenging behaviour</td>
<td>Sibling to learn how to prevent and deal with challenging behaviour</td>
</tr>
<tr>
<td>Sibling to learn behavioural strategies to use with Ramona</td>
<td>Sibling to learn behavioural strategies to use with Ramona</td>
</tr>
<tr>
<td>Siblings to have a positive relationship</td>
<td>Siblings to have a positive relationship</td>
</tr>
<tr>
<td>Sibling to help Ramona when parents busy</td>
<td>Mother to have free time while children are playing together</td>
</tr>
</tbody>
</table>
**Baseline.** During the baseline phase, I asked Sascha to attempt to perform the two routines selected for intervention with Ramona. These experimental observation sessions were video-taped for later coding. The dependent variables related to child behaviour (i.e., percentage of intervals of challenging behaviour, latency to termination or successful completion of the routine, and percentage of steps successfully completed) were measured for each baseline session. At the beginning of each baseline probe session, I read the operational definition of the target routine aloud to the family, and all relevant family members were asked to attempt the steps of the envisioned routine until the routine was completed successfully or Ramona engaged in the criterion level of challenging behaviour to terminate the routine. Three baseline probe sessions were conducted for each routine, and the graphed data showed sufficient stability to begin intervention in the first routine. Before the intervention phase begins in the second routine, I will conduct at least two more baseline probes for a minimum total of five probes in the second routine. Also during the baseline phase, the TD sibling and mother completed the Sibling Relationship Questionnaire (SRQ) to measure baseline levels of sibling relationship quality.

**Intervention.** The independent variable of this study was the implementation of a sibling-friendly approach to positive behaviour support, consisting of three components: (a) comprehensive assessment; (b) development of a PBS plan; and (c) implementation support.

**Comprehensive assessment.** In collaboration with the family I completed a comprehensive assessment that consisted of three components: (a) functional assessment; (b) family ecology assessment; and (c) sibling ecology assessment.

**Functional assessment.** I conducted the Functional Assessment Interview (FAI) developed by O’Neill, Horner, Sprague, Storey, and Newton (1997) with the family in the family’s home (see Appendix L). The FAI consisted of questions related to behaviours of
concern, setting events, antecedents, the functions of challenging behaviour, adaptive skills in the child’s repertoire, and the child’s reinforcers. The FAI took approximately 90 minutes to complete. Results from the FAI were used to develop hypotheses about the functions of Ramona’s challenging behaviour and baseline observations were used to confirm these hypotheses.

Setting events are distal antecedent events that increase the likelihood of challenging behaviour by changing the momentary value of reinforcers and punishers. While they increase the likelihood that challenging behaviour will occur in the presence of a proximal antecedent, they are not the direct antecedent for the behaviour (Horner, Vaughn, Day, & Ard, 1996). Five setting events were identified that set the stage for Ramona’s problem behaviour: (a) hunger (which was a problem particularly for the morning self-care routine); (b) insufficient sleep; (c) illness; (d) playing with sticks (a favourite activity of Ramona’s was to touch, throw, and look at sticks; if she was playing with sticks before beginning the morning routine, she was more likely to engage in problem behaviour in order to maintain access to the sticks when someone tried to remove them and have her transition to the morning routine); and (e) physical discomfort caused by a hairclip put in her hair.

In this study, antecedent events were defined as events that signal that a particular response will be reinforced. Antecedent events differ from setting events in that antecedents directly occasion challenging behaviour, while setting events increase the likelihood that an antecedent will occasion behaviour. Antecedent events that directly occasioned Ramona’s challenging behaviour in the target routines included: a) a request/preference being denied, not met, or delayed (e.g., “You can’t have gum right now”); (b) being told to change or stop a preferred activity (e.g., “Stop playing, it is time to get ready”; (c) removing a preferred item; (d)
making a demand (e.g., “Go to the washroom”); and (e) engaging in a non-preferred activity (e.g., putting on shoes).

When Ramona engaged in challenging behaviour following the antecedent events described above, the family explained that one or more of the following consequences typically occurred: (a) Ramona maintained/obtained access to preferred items; (b) Ramona delayed the start of a non-preferred task or activity; and/or (c) Ramona escaped from a non-preferred task or activity.

From the information learned during the FAI, we hypothesized that Ramona engaged in problem behaviour during the target routines to serve two functions: (a) to escape or delay non-preferred requests or activities (i.e., escape function); and (b) to gain or maintain access to preferred items or activities (i.e., tangible function). The hypotheses were confirmed by observing baseline sessions and recording antecedents, behaviours, and consequences on a functional assessment observation (FAO) datasheet (see Appendix M).

**Family ecology assessment.** A broad family ecology assessment was conducted with the mother, with an interview protocol developed by Lucyshyn and colleagues (2002; see Appendix N). This assessment was conducted in the family’s home and took approximately one hour to complete. The mother was asked to respond to open-ended questions regarding family goals, strengths, stressors, resources, and social supports (see Table 2.4). The responses were used to select contextually appropriate PBS strategies to ensure maximal goodness-of-fit with the family.
Table 2.4

*Family ecology assessment results*

<table>
<thead>
<tr>
<th>Categories</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family strengths</td>
<td>• Mother, father, and sibling are very intelligent and can learn things quickly&lt;br&gt;• Family is supportive of one another and will help each other when needed&lt;br&gt;• Everyone in family is in good physical and mental health&lt;br&gt;• Communication between family members is good&lt;br&gt;• Like to do activities as a family, such as grocery shopping and going to the park</td>
</tr>
<tr>
<td>Child contributions</td>
<td>• Child is very cute&lt;br&gt;• Family feels strong sense of love for her&lt;br&gt;• Creates learning opportunities for family (e.g., communicating with others in society, negotiating with others, advocacy, etc.)&lt;br&gt;• Has helped older sister to become more responsible and supportive&lt;br&gt;• Has helped father become more patient</td>
</tr>
<tr>
<td>Resources</td>
<td>• Child receives 10 hours per week of ABA intervention (team includes two behaviour interventionists, a program supervisor, and a behaviour consultant)&lt;br&gt;• Child receives services from an occupational therapist&lt;br&gt;• Child receives services from a speech-language pathologist&lt;br&gt;• Family receives respite services for a few hours one day per week.&lt;br&gt;• Mother, father, and older daughter share household responsibilities</td>
</tr>
<tr>
<td>Categories</td>
<td>Responses</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Social support  | • Mother’s main sources of social support are husband and older daughter  
• Mother has a few friends she talks on the phone or online with, although has little time to see them  
• Otherwise, somewhat limited (family is overseas)                                                                                       |
| Stressors       | • Time is big source of stress. The father only has one day off per week, daughter spends lots of time doing homework and extracurricular activities, and mom spends a lot of time trying to complete everyday routines with child (e.g., eating, getting ready, etc. all take a very long time).  
• Family can get embarrassed when child has problem behaviour in public.  
• Mother is worried that child’s screaming may affect others in community that have health conditions  
• Family has difficulty traveling places using public transit.  
• Family has been unable to travel to China to visit family.                                                                                   |
| Goals           | • Have child understand that her older sister can help her  
• Have child follow older sisters instructions  
• Have child be more independent with self-help skills  
• Have child learn more play and social skills  
• Have children able to play with each other for up to twenty minutes  
• Have children have a closer and better sibling relationship  
• Reduce child’s problem behaviour when with her sister  
• Have older daughter better understand child’s needs and learn some basic strategies in case she needs to take more responsibility in the future  
• Have older daughter explore the field of working with children with special needs and gain experience that may help her with her future university  
• Have older daughter learn more empathy and tolerance for individuals who are different  
• Have parents be able to better support a sibling relationship                                                                                  |
**Sibling ecology assessment.** In order to assess the sibling relationship, I developed a sibling ecology assessment consisting of three parts (see Appendix G). Part A, as completed during preliminary start-up procedures, consisted of semi-structured interview questions regarding the activities the siblings engaged in together (i.e., play, leisure, care-giving, and shared routine activities). Parts B and C were completed during the comprehensive assessment phase of intervention. Part B consisted of semi-structured interview questions regarding the interaction patterns between siblings. Questions from Part B were developed based on interaction patterns discussed in a study by Furman and Buhrmester (1985). The mother and TD sibling were both present during the interview for Parts A and B and were asked to describe: (a) the positive aspects of the current situation; (b) the negative aspects of the current situation; (c) what they would like the situation to look like; and (d) the importance of each activity and interaction pattern identified. Part C consisted of semi-structured interview questions regarding some unique concerns (e.g., parental partiality, embarrassment, future concerns, etc.) and opportunities (e.g., learning opportunities, positive experiences, etc.) that siblings of individuals with special needs may face. Questions from Part C were developed based on themes discussed by Don Meyer (Meyer, 1994a; 1994b; 2013, November). Sascha was invited to share her thoughts, feelings, and experiences about her relationship with her sibling with autism. See Table 2.5 for a summary of part B and C sibling ecology assessment results. The information from the sibling ecology assessment allowed us to: (a) choose the routines that were the most important to the family and the sibling relationship; and (b) focus the intervention on specific aspects of the sibling relationship that the family believed were the most important.
<table>
<thead>
<tr>
<th>Section</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>**Part B:</td>
<td>Sascha engages in prosocial behaviours towards Ramona, but Ramona does not.</td>
</tr>
<tr>
<td>Interaction</td>
<td>Sascha often helps Ramona, but would like to help more and be able to teach her how to do things.</td>
</tr>
<tr>
<td>patterns</td>
<td>Ramona helps Sascha by telling her where something is when Ramona wants it. Ramona does not engage in any helping behaviours that benefit Sascha.</td>
</tr>
<tr>
<td></td>
<td>Sascha shows Ramona lots of affection by giving hugs and kisses. Ramona will hug Sascha back but not initiate. Ramona will play with Sascha’s hair, but is often too rough or will be holding items (e.g., straws) that get stuck in Sascha’s hair and hurt her.</td>
</tr>
<tr>
<td></td>
<td>Sascha and Ramona spend time together when they go to the park, watch TV together, or play chase. There are not many other activities that they do together.</td>
</tr>
<tr>
<td></td>
<td>Ramona and Sascha both like to engage in physical play with each other, and both like books and music, although they have different tastes because of the age gap.</td>
</tr>
<tr>
<td></td>
<td>Sascha shows a great admiration of Ramona.</td>
</tr>
<tr>
<td></td>
<td>Ramona shows admiration/respect of Sascha when she follows instructions occasionally. However, Ramona does not follow instructions all of the time nor does she request help or play from Sascha.</td>
</tr>
<tr>
<td></td>
<td>Sascha sometimes tells Ramona what to do, but if Ramona does not want to, Sascha does not make her do it. Parents feel it is their responsibility to ensure Ramona does things that are difficult; don’t want it to be sibling’s responsibility.</td>
</tr>
<tr>
<td></td>
<td>Ramona often makes Sascha do things in inappropriate ways, such as moving her out of a spot she is sitting in, kicking her, and whining if Sascha doesn’t give her something she wants.</td>
</tr>
<tr>
<td></td>
<td>Ramona sometimes pushes and aggresses (hitting/kicking) against Sascha.</td>
</tr>
<tr>
<td></td>
<td>Ramona and Sascha do not compete with each other in a negative way.</td>
</tr>
<tr>
<td></td>
<td>Ramona can get mad at Sascha if Sascha doesn’t do what Ramona wants right away (Ramona wants toy)</td>
</tr>
</tbody>
</table>
### Part C: Unique concerns and opportunities

- Hard for Sascha to play with Ramona because Ramona gets mad easily/engages in challenging behaviour easily.
- Sascha believes mom gets angry to easily at her and Ramona.
- Sascha likes going to the park with Ramona because Ramona is happy there.
- In the community, Ramona can be impatient and can cry and scream really loud, but Sascha does not get very embarrassed by this.
- Sascha helps out with taking care of Ramona sometimes and is okay with that responsibility.
- Thinks Ramona may be able to do a bit more to help around the house (e.g., clean up after herself)
- Sascha doesn’t understand why Ramona has autism, believes she was “normal” when baby and then she changed around age 2.
- Sascha believes that Ramona having autism has helped her learn about autism and how to take care of little kids.
- Sascha believes that a good thing about having a sibling with autism is that she can learn even more about autism.
- Sascha believes that a not so good thing about having a sibling with autism is that she runs around the house a lot, makes a lot of messes, is loud, and hits/kicks people.
- Sascha feels comfortable talking to her parents about how she feels about having a sibling with autism.
- Sascha feels it may be helpful to speak with other siblings of kids with disabilities.
**PBS Plan Development.** The results from the functional, family ecology, and sibling relationship assessments guided the development of a technically sound, contextually appropriate, and sibling-friendly PBS plan for the first of two target routines (i.e., the morning self-care routine; see Appendix O). The process consisted of three steps: (a) building summary statements and competing behaviour pathways diagrams for the morning self-care routine; (b) identifying strategies that were logically linked to the features of the problem in the morning self-care routine; and (c) finalizing strategies that were likely to be effective, contextually appropriate, and sibling-friendly within the family and sibling ecology. Due to the possibility of drift between routines, I developed the PBS plan for the first routine using the information from the assessments but not in direct collaboration with the family. Once intervention begins for the second routine, this process will be repeated, however, development of the PBS plan for the turn-taking game routine will occur in collaboration with the family, with TD sibling input strongly encouraged.

**Build summary statements and competing behaviour pathways diagrams.** The results from the functional assessment were used to develop a summary statement and competing behaviour pathways diagram for each function in the morning self-care routine. The summary statements included setting events, antecedents, challenging behaviour, and maintaining consequence. The competing behaviour pathways diagrams included these same components, as well as the desired behaviour for the routine and alternative replacement behaviours that were acceptable until the desired behaviour was achieved (see Figure 2.1 and Figure 2.2 for the competing pathways diagrams). The competing pathways diagrams helped guide the development of a technically sound PBS plan.
Figure 2.1

*Competing behaviour pathways diagram for the morning self-care routine – escape function.*
Figure 2.2

Competing behaviour pathways diagram for the morning self-care routine – tangible function.
Identify intervention strategies. The PBS plan includes four types of strategies, each addressing a feature of the problem that was outlined in the competing behaviour pathways diagram for the morning self-care routine: (a) setting event strategies; (b) antecedent strategies; (c) teaching strategies; and (d) consequence strategies. Appropriate strategies were selected to ensure challenging behaviour becomes ineffective, inefficient, and irrelevant within the routine, while desirable behaviour becomes functional. For the morning self-care routine, I selected strategies from a set of empirically validated interventions (Koegel, Koegel, & Dunlap, 1996; Luiselli & Cameron, 1998; Repp & Horner, 1999). See Table 2.6 and Table 2.7 for support strategies chosen for the escape and tangible functions, respectively, for the morning self-care routine.
Table 2.6

*Behaviour support strategies for the morning self-care routine – escape function*

<table>
<thead>
<tr>
<th>Setting event strategies</th>
<th>Preventative strategies</th>
<th>Teaching strategies</th>
<th>Consequence strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ensure Ramona has eaten breakfast before beginning routine</td>
<td>1. Visual sequence of steps in routine to increase predictability</td>
<td>1. Teach Ramona to use the visual sequence</td>
<td>1. Provide verbal praise and tangible reinforcers when Ramona cooperatively completes steps in routine, accepts help from sister, and wears clip in hair</td>
</tr>
<tr>
<td>2. Increase reinforcement if Ramona has had insufficient sleep or is at the very end of an illness</td>
<td>2. Visual positive contingency (&quot;first-then&quot; board)</td>
<td>2. Teach Ramona to use the “first-then” board</td>
<td></td>
</tr>
<tr>
<td>3. Do not complete routine if Ramona is too ill to attend school or have sessions</td>
<td>3. Offer choices (e.g., hairclips, cloths, combs, reinforcers)</td>
<td>3. Teach Ramona to ask appropriately for a break</td>
<td></td>
</tr>
<tr>
<td>4. Ensure hair clips are light and flat to minimize discomfort</td>
<td>4. Use positive contingency statements</td>
<td>4. Teach Ramona to engage in self-help skills</td>
<td></td>
</tr>
<tr>
<td>5. Begin with slip-on shoes and move to more difficult shoes once routine is successful</td>
<td>5. Use safety signals towards end of routine</td>
<td>5. Pair hair clip in hair with preferred edibles, toys, and praise</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Bring preferred items to bathroom</td>
<td></td>
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<tr>
<td></td>
<td>7. Take Ramona to urinate a few minutes before routine</td>
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<tr>
<td></td>
<td>8. Use behavioural momentum to help with difficult shoe step (i.e., puts on shoes last)</td>
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<tr>
<td></td>
<td></td>
<td>2. Provide a one minute break contingent on appropriate requesting</td>
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<tr>
<td></td>
<td></td>
<td>3. Actively ignore minor problem behaviour and redirect to task</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Minimize reinforcement for major problem behaviour (i.e., do not allow Ramona to escape from completing the remaining self-help tasks following major problem behaviour)</td>
<td></td>
</tr>
</tbody>
</table>
Table 2.7

*Behaviour support strategies for the morning self-care routine – tangible function*

<table>
<thead>
<tr>
<th>Setting event strategies</th>
<th>Preventative strategies</th>
<th>Teaching strategies</th>
<th>Consequence strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ensure Ramona is not playing with sticks before routine begins</td>
<td>1. Provide warnings before removing preferred items</td>
<td>1. Teach Ramona to ask appropriately for an item</td>
<td>1. Provide verbal praise and tangible reinforcers when Ramona cooperatively gives up items and transitions to next task</td>
</tr>
<tr>
<td>2. See setting event strategies 1-3 in escape function plan.</td>
<td>2. See preventative strategies 2-6 in escape function plan</td>
<td>2. Teach Ramona to ask appropriately for more time with an item</td>
<td>2. Provide Ramona with an item or one more minute with an item contingent on appropriate requesting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. See teaching strategy 2 in escape function plan</td>
<td>3. Actively ignore minor problem behaviour and redirect to task</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Minimize reinforcement for major problem behaviour (i.e., do not allow Ramona to access the preferred item following major problem behaviour)</td>
</tr>
</tbody>
</table>
**Finalize behaviour support strategies.** Once all possible and appropriate intervention strategies were identified, I selected only those strategies I thought would be necessary and sufficient. I reviewed the information obtained from the family ecology and sibling ecology assessments to adjust the strategies to ensure good contextual fit with the family’s values and context. I reviewed the plan with the family and asked them for suggestions or changes they would like to make; no changes were made at that time. When the PBS plan for the second routine is developed, the mother and TD sibling will be the ones to review the strategies and select only those that are necessary and sufficient and have good contextual fit. See Table 2.8 for a list of contextual and sibling fit considerations. Research has shown that PBS plans that incorporate ecological information are effective across a wide range of children and families (Clarke et al., 1999; Lucyshyn et al., 2007; Moes & Frea, 2000).
Table 2.8

*Contextual and sibling fit considerations*

<table>
<thead>
<tr>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contextual</strong></td>
</tr>
<tr>
<td>• Family is very intelligent and somewhat familiar with ABA – may learn strategies quickly and may not be many limits on what strategies we can implement</td>
</tr>
<tr>
<td>• Father is not home very much – if he is to be involved, we should work on something small once we have already seen some success</td>
</tr>
<tr>
<td>• Mother is home all of the time and willing to support daughter’s implementation of strategies – mother may be useful support to have daughter understand and implement strategies</td>
</tr>
<tr>
<td>• Limited social support – may cause increased stress, may need to talk to family about a confidential support group</td>
</tr>
<tr>
<td>• Child has minimal communication skills – may need to use many visual supports and alternative communication methods when implementing strategies</td>
</tr>
<tr>
<td>• Older daughter is very busy and has limited time – may need to have shorter training sessions, find ways to use time more effectively, and have training on weekends and may not expect daughter to work on routines everyday during especially busy times</td>
</tr>
<tr>
<td><strong>Sibling</strong></td>
</tr>
<tr>
<td>• Goals addressed in morning and/or play routine: Ramona to give things back to Sascha; Sascha to learn to teach Ramona how to do things, deal with behaviour issues, and help with Ramona if mom is busy; Ramona to pass Sascha objects and help Sascha clean up; Ramona and Sascha to do more activities together; Ramona to follow instructions from Sascha and ask Sascha for help and to play; Ramona to act appropriately with Sascha when wants something instead of hitting, kicking, etc.</td>
</tr>
<tr>
<td>• Provide Sascha with additional information about autism</td>
</tr>
<tr>
<td>• Provide Sascha with information about Sibshops to meet other kids with siblings with disabilities</td>
</tr>
<tr>
<td>• Monitor mother’s reported anger to see if anything further needs to be done</td>
</tr>
</tbody>
</table>
**Implementation support.** Implementation support to this point in the study has consisted of two activities: (a) implementation support plan development; (b) initial training and support for the morning self-care routine. When this study continues, the third activity, maintenance support, will occur. These three implementation support activities will be repeated for the turn-taking game routine.

**Implementation support plan development.** Once the family and I finalized the PBS plan, I developed an implementation plan that defined: (a) the training materials and support activities needed to implement the behaviour support strategies; (b) the roles and responsibilities of all relevant individuals; and (c) a timeline for completing the implementation support process (see Appendix P). See Table 2.9 for a summary of the implementation plan in the morning self-care routine. The TD sibling and parents also were provided with an eight-page PBS plan with descriptions of each of the behaviour support strategies selected. The TD sibling’s version highlighted the strategies for which she was responsible while the mother’s version highlighted the strategies for which she was responsible. I provided the TD sibling and mother with their own implementation checklist (i.e., shortened one- to two-page bulleted-list version of the PBS plan), each containing only those strategies for which either the TD sibling or the mother was responsible (see Appendix Q). At the start of the intervention phase, the TD sibling and parents used their respective checklists to monitor my implementation of the PBS plan with Ramona. Later, they will use the checklists to self-monitor their own implementation of PBS plan strategies.
Table 2.9

*Summary of the implementation plan for the morning self-care routine*

<table>
<thead>
<tr>
<th>Plan section</th>
<th>Morning self-care routine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training and support activities</strong></td>
<td>• Written positive behaviour support plan</td>
</tr>
<tr>
<td></td>
<td>• Development of training and support materials (e.g., visual sequence, “first-then” board, choice board, etc.)</td>
</tr>
<tr>
<td></td>
<td>• Creation of implementation checklists by student researcher</td>
</tr>
<tr>
<td></td>
<td>• Intervention led by student researcher (until Ramona meets performance criteria, at which point sibling will be faded into lead interventionist)</td>
</tr>
<tr>
<td></td>
<td>• Coaching and modelling sessions for sibling and mother, led by student researcher</td>
</tr>
<tr>
<td></td>
<td>• Meetings to review progress and problem solve</td>
</tr>
<tr>
<td><strong>Roles and responsibilities</strong></td>
<td>• Ramona’s sibling and mother – fill out own implementation checklist during each implementation during initial training phase, implement behaviour support strategies during morning self-care routine</td>
</tr>
<tr>
<td></td>
<td>• Student researcher – gather/create materials, review all data, train and support family members, change plan as necessary through discussion with family</td>
</tr>
<tr>
<td></td>
<td>• Principal Investigator – advise and participate in meetings and intervention as necessary</td>
</tr>
<tr>
<td><strong>Timeline</strong></td>
<td>• Four to five months of training and support</td>
</tr>
</tbody>
</table>
**Initial training and support.** During the initial training and support phase, there are two sub-phases: (a) initial interventionist training; and (b) initial sibling and parent training and support. To date, initial interventionist training has been initiated and is currently ongoing.

**Initial interventionist training (IIT).** During the IIT sub-phase, I served as the primary interventionist with Ramona for the morning-self care routine. This sub-phase was considered necessary due to the frequency and intensity of Ramona’s challenging behaviour. Based on baseline observations in the two routines, it was hypothesized that a behavioural history of coercive patterns of interaction between Ramona and her family contributed to increased levels of challenging behaviour given the higher expectations required of Ramona during the morning self-care routine (Patterson, 1982). Specifically, the coercive process observed clinically during baseline began with the sibling presenting a request or demand to Ramona. Ramona responded by engaging in challenging behaviour. In response to the challenging behaviour, the sibling removed the demand, and in response, Ramona terminated the challenging behaviour (see Figure 2.3 for a diagram of the coercive process; Lucyshyn et al., 2009). This coercive pattern of interaction created a situation in which Ramona’s challenging behaviour was inadvertently reinforced by the removal of the demand. The sibling’s behaviour of removing the demand also was reinforced by the termination of the challenging behaviour. The current goal of the study is to reduce challenging behaviour and increase cooperation with me (i.e., student researcher) first, and then introduce a stimulus fading plan to transfer stimulus control of the routine to the sibling and eventually the mother so she will be able to support her daughters in the routine when the study is completed. It is anticipated that these procedures will help the family replace coercive processes with constructive processes. A constructive pattern of interaction involves a parent or sibling placing a demand, to which Ramona responds with compliance. The parent or sibling
would then provide Ramona with praise or tangible reinforcement, and in response, Ramona would continue to engage in acceptable behaviour, such as orienting to and engaging in the next task (see Figure 2.4 for a diagram of the targeted constructive process in the two family routines; Lucyshyn et al., 2009).
Figure 2.3

Diagram of the hypothesized coercive process operating in the two target routines (Lucyshyn et al., 2009)
Figure 2.4

*Diagram of the constructive process targeted in the two family routines (Lucyshyn et al., 2009)*
To date, I have completed six IIT sessions with Ramona. Sessions lasted for approximately thirty minutes to one hour, and occurred one to three times a week in the family’s home. Sessions occurred on either weekend mornings or weekday evenings, due to time constraints on weekday mornings. When the intervention sees success and the time involved is reduced, the morning self-care routine will be transferred to weekday mornings. During the six IIT sessions, the procedures were as follows: (a) arrive and greet the family; (b) set up materials and take out reinforcers; (c) implement hairclip pairing procedure (two sessions only); (d) implement routine with sibling observing; (e) debrief with sibling and fill out implementation checklist together on my behaviour; and (f) debrief with the mother. See Appendix R for the stimulus response data form used during IIT training sessions. The first two sessions included a hair clip pairing procedure for the first five to ten minutes after arrival. The procedure consisted of the following steps: (a) bring Ramona in front of the bathroom mirror where the hair clip step will occur; (b) give Ramona a choice of which hair clip she would like to wear; (c) place hair clip in Ramona’s hair; (d) block Ramona’s hands from removing clip; (e) show her in the mirror that she is wearing the hairclip and provide her with praise, preferred edibles, and toys every five to ten seconds; and (f) gradually increase the amount of time between reinforcement. This procedure was successfully completed after two sessions as Ramona learned to tolerate the clip in her hair quickly and subsequently rarely tried to remove it. Throughout the rest of the sessions, this step was not an issue. In addition, the mother reported that Ramona regularly began to wear hairclips for large portions of the days without a problem.

Throughout the IIT sub-phase, the family and I made a few changes to the PBS plan based on observations that occurred during implementation of the routine. The first change that was made was to make the “put on shoes” step the last step in the routine before leaving the
bathroom to go see mom. In the original plan, this step was the first step after entering the bathroom. However, since putting on shoes was particularly non-preferred to Ramona, prompts to complete the step triggered high intensity challenging behaviours that were difficult to recover from throughout the rest of the routine. For the last two IIT sessions, this step was placed near the end of the routine to capitalize on the principle of behavioural momentum (Mace et al., 1988) and to have the most difficult step occurring as close to reinforcement as possible. Another challenge with regards to the “put on shoes” step was the physical difficulty Ramona experienced in trying to put on the shoes. Given this, the family and I decided to switch to slip on shoes until we see success and then fade to regular shoes. Finally, we noticed that at the beginning of every implementation of the routine, Ramona would request to use the toilet immediately after going into the bathroom. While we did not want to deprive her of using the toilet if she needed to, it became clear that she was engaging in this behaviour to escape or delay completing the steps of the routine. Accordingly, the family agreed to take Ramona to the bathroom as soon as I arrived and then during the routine, I would prompt her to ask for a break when entering bathroom instead of asking to use the toilet.

To date, IIT training is ongoing. I will continue to implement the routine with Ramona until she is able to complete at least 80% of steps successfully without engaging in the level of challenging behaviour that would result in termination of the session. At this point, I will begin the stimulus fading procedure to transfer stimulus control to the TD sibling. The procedure will consist of the following steps: (a) interventionist completes the routine with Ramona while Sascha delivers praise and tangible reinforcers during the routine and the final reinforcement at the end of the routine; (b) interventionist completes most of the routine with Ramona, while Sascha delivers praise and tangible reinforcers during the routine, completes the last step in the
routine, and delivers the final reinforcement at the end of the routine; and (c) Sascha gradually completes more steps of the routine until she is completing the entire routine with Ramona without my presence or assistance.

**Initial sibling and parent training.** Once Ramona is successful in the morning self-care routine with the interventionist, additional training activities with the TD sibling will begin. During this sub-phase, the TD sibling will implement all steps of the routine with Ramona while I provide coaching and encouragement to the TD sibling during implementation. Additional training during this sub-phase will include: (a) modeling; (b) role play; (c) behavioural rehearsal; and (d) problem solving discussions. The TD sibling will continue to complete the implementation checklist after each implementation. Training sessions during this sub-phase will last for approximately 30 minutes to one hour and will occur two to three times per week. All implementations of the routine in this sub-phase will occur on weekend on weekday mornings.

**Additional measures.** In addition to PBS plan development and implementation, the TD sibling and parents will complete a measure of contextual fit at the beginning of the initial training and support phase. They will also complete a measure of social validity during the initial parent and sibling training sub-phase in the morning self-care routine. Both of these measures also will be completed for the turn-taking game routine during intervention for that routine.

**Withdrawal phase in first routine.** During the first routine only, a brief treatment withdrawal will occur when the following criteria are met: (a) the TD sibling and the parents demonstrate independent and successful implementation of the behaviour support strategies; (b) 80% or more steps in the routine are completed successfully; and (c) the child’s challenging behaviour is reduced to low or near zero levels. The parents and TD sibling will discontinue using the PBS plan strategies to recreate the routine as it occurred before intervention for one
observation session (e.g., removing visual supports, not providing choice). In order to ensure the family is prepared to withdraw the intervention and that the withdrawal actually occurs, the following steps will be completed: (a) discussion with the parents and TD sibling to remind them of the purpose and importance of the withdrawal in documenting a functional relation; (b) answer questions and concerns the family may have about the withdrawal; (c) create a plan for the withdrawal, outlining exactly what will be done during the session; (d) role play the routine with the family; (e) wait one week since the last session to do the withdrawal session; and (f) collect parent and TD sibling accurate use of behaviour support strategies during the withdrawal session.

**Return to intervention in first routine.** During the first routine only, the parents and TD sibling will re-implement the PBS plan strategies within the initial training and support sub-phase after the completion of the brief treatment withdrawal phase.

The maintenance support sub-phase will begin in the first routine once the following four criteria are re-met: (a) the TD sibling and the parents demonstrate independent and successful implementation of the behaviour support strategies; (b) 80% or more steps in the routine are completed successfully; (c) the child’s challenging behaviour is reduced to near-zero levels (i.e., less than 10% of intervals) for two consecutive observation sessions; and (d) the parents and TD sibling evaluate the routine as socially valid (i.e., receives a score of 4 or better on social validity assessments). At this point, I will begin initial support and training with the family for the second routine until the above-mentioned criteria have been met for this second routine. Once the initial training and support phase have been completed for the turn-taking game routine, and the above four criteria are met, we will move immediately to the maintenance support phase without completing the withdrawal phase.
**Maintenance support.** I will sequentially implement the maintenance support sub-phase in each routine when stable improvement in routine participation and challenging behaviour in each routine is documented based on the criteria described above. The purposes of the maintenance phase include: (a) ensuring that the parents and TD sibling use a smaller set of only necessary and sufficient PBS strategies to maintain the target child’s behaviour improvement over time; (b) building parent and TD sibling resilience during common obstacles to maintenance; and (c) teaching the parents and TD sibling to generalize and adapt the use of PBS strategies to non-trained routines and settings.

At the beginning of the maintenance phase, I will develop a relapse prevention plan in collaboration with the parents and TD sibling. The relapse prevention plan will consist of three components: (a) an abridged implementation checklist that includes only those strategies viewed as necessary and sufficient to maintain the target child’s behavioural improvements; (b) a three-question coercive process checklist, used to assist the parents and TD sibling in monitoring and preventing the re-emergence of coercive processes that were previously operating; and (c) a list of common obstacles to long-term maintenance (e.g., illness) and solutions to prevent or overcome these obstacles (e.g., decrease demands while a child is ill).

During maintenance support sessions, I will decrease the amount of implementation support and decrease the frequency of training and support sessions to approximately one session every one or two weeks. I will briefly coach the TD sibling and parents prior to beginning the target routine, model and coach during the routine only as necessary, and provide positive or corrective feedback after completion of the routine. I will participate with the family in problem solving discussions, encouraging the family to assess the problem and develop solutions as much as possible. When both routines have entered the maintenance support phase, I will begin to
teach the parents and TD sibling how to generalize the use of PBS strategies to non-trained settings. I will prepare a comprehensive implementation checklist, comprised of core strategies from the routine-specific plans that will be relevant to the family across all sibling-related routines. The parents and TD sibling will be taught to use the competing behaviour pathways diagram to assess challenging behaviour and generate PBS strategies. The parents and TD sibling will be encouraged to: (a) identify a setting in which challenging behaviour still occurs; (b) develop a PBS plan likely to improve the problem; (c) implement the plan; and (d) evaluate the success of the plan.

The maintenance phase will conclude after the parents and TD sibling: (a) successfully use the relapse prevention plan to maintain child progress; (b) identify and overcome at least one obstacle in a target routine with minimal to no help; and (c) successfully generalize the use of PBS strategies to non-trained settings.

**Follow-up.** I will collect follow-up data approximately once per month for two consecutive months after completion of the maintenance support sub-phase. The TD sibling and parents will again complete the measures of contextual fit, and social validity. The TD sibling and parents will again complete the SRQ. Following an observation session, I will provide further feedback and consultative assistance as needed, should it become apparent that the target child’s behaviour has deteriorated beyond a socially acceptable level.
3 RESULTS

The following five dependent variables have been measured: (a) percentage of intervals of challenging behaviour; (b) percentage of steps successfully completed; (c) latency to termination or successfully completion; (d) index of sibling relationship quality; and (e) average index of the behaviour support plan’s contextual fit. Results and analysis of each of the above dependent variables are described below. Clinical data from the initial interventionist training phase are also presented.

Quantitative Results

Percentage of intervals of challenging behaviour. Figure 3.1 presents the percentage of intervals of challenging behaviour during the baseline phase for the morning self-care and turn-taking game routines.
Figure 3.1

Baseline results for percentage of intervals of challenging behaviour and percentage of steps completed during morning self-care and turn-taking game routines. Note: Please see left y-axis for percentage of intervals of challenging behaviour and right y-axis for percentage of steps completed.
**Morning self-care routine.** Three baseline sessions were conducted for the morning self-care routine. Baseline data in the morning self-care routine showed high and somewhat variable levels of challenging behaviour, with an average of 72.3% of intervals containing challenging behaviour (range, 50 – 89%).

**Turn-taking game routine.** Three baseline sessions were also conducted for the turn-taking self-care routine. Baseline data in this routine also showed high and somewhat variable levels of challenging behaviour. An average of 71.2% of intervals contained challenging behaviour (range, 61.1 – 88.9%). Consistent with the multiple baseline design across two routines, at least two more baseline sessions will be conducted in the turn-taking game routine before intervention begins for this routine.

**Percentage of steps successfully completed.** Figure 3.1 presents the percentage of steps successfully completed during the baseline phase for the morning self-care and turn-taking game routines.

**Morning self-care routine.** Baseline results showed low and stable levels of steps completed during the morning self-care routine. An average of 4.2% of steps were completed across the three baseline sessions (range, 0 – 6.3%).

**Turn-taking game routine.** Baseline results showed low and somewhat variable levels of steps completed for the turn-taking game routine. An average of 13.7% of steps were completed across the three baseline sessions (range, 0 – 28.6%). Consistent with the multiple baseline design, a minimum of two additional baseline sessions will be conducted in the turn-taking game routine before beginning intervention for this routine.
Latency to termination or successful completion. Figure 3.2 presents latency to termination or successful completion data during the baseline phase of the morning self-care and turn-taking game routines.
Figure 3.2

*Baseline results for latency to termination or successful completion in the morning self-care and turn-taking game routines.*
Morning self-care routine. Baseline data for latency to termination or successful completion of the morning self-care routine showed low, stable levels across the three baseline sessions. All three baseline sessions were terminated at the three minute cut-off point due to Ramona engaging in the criterion level of challenging behaviour before three minutes had elapsed. Of the three sessions, 0% were completed successfully due to child challenging behaviour. The average latency to termination for the morning self-care routine during the baseline phase was 1 minute, 14 seconds (range, 34 sec – 1 min, 47 sec).

Turn-taking game routine. Baseline data for latency to termination or successful completion of the turn-taking game routine showed low, stable levels across the three baseline sessions. Two of the three baseline sessions were terminated at the three minute cut-off point due to Ramona engaging in the criterion level of challenging behaviour before three minutes had elapsed. Of the three sessions, 0% were completed successfully due to child challenging behaviour. The average latency to termination for the turn-taking game routine during the baseline phase was 1 minute, 48 seconds (range, 30 sec – 3 min, 32 sec).

Sibling Relationship Quality

Table 3.1 presents Ramona’s mother’s and sibling’s scores for each of the 16 scales on the SRQ. Each scale was rated on a 5-point Likert scale from 1 (hardly at all) to 5 (extremely much). An exception is maternal and paternal partiality, where neither sibling being favoured was scored as 0, either sibling being favoured often was scored as 1, and either sibling being favoured almost always was scored as 2. Table 3.2 presents Ramona’s mother’s and sibling’s scores on four factors (i.e., warmth/closeness, relative status/power, conflict, and rivalry). The warmth/closeness factor is an average of the scale scores for intimacy, prosocial behaviour, companionship, similarity, admiration by sibling, admiration of sibling, and affection. The
mother’s score for the warmth/closeness factor was 2.19, while the sibling’s score on this factor was 3.62, both out of a possible score of 5. These scores indicate a mid-range level of warmth/closeness. The relative status/power factor is determined by subtracting the scale scores of nurturance by sibling and dominance by sibling from the scale scores of nurturance of sibling and dominance of sibling. The mother’s and sibling’s scores for the relative status/power factor were 3 and 3.33, respectively. These scores indicate that Sascha has relative status and power over Ramona (i.e., Sascha engaged in more nurturance and dominance over Ramona than vice versa). The conflict factor consists of the average of the scale scores of quarreling, antagonism, and competition. The mother’s and sibling’s scores on the conflict factor were 1 and 1.11, respectively. These scores indicate a very low level of conflict. The rivalry factor consists of the average of the scale scores for maternal and paternal partiality. The mother and sibling both scored 0.17 on the rivalry factor. These scores indicate a minimal level of parent partiality in favour of Ramona.
Table 3.1

*Mother’s and sibling’s scale scores on the Sibling Relationship Questionnaire at baseline*

<table>
<thead>
<tr>
<th>SRQ scale</th>
<th>Mother’s score</th>
<th>Sibling’s score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intimacy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Prosocial</td>
<td>2</td>
<td>3.33</td>
</tr>
<tr>
<td>Companionship</td>
<td>3.33</td>
<td>4.33</td>
</tr>
<tr>
<td>Similarity</td>
<td>1.67</td>
<td>3.33</td>
</tr>
<tr>
<td>Nurturance by sibling (i.e., Ramona nurtures Sascha)</td>
<td>1</td>
<td>1.33</td>
</tr>
<tr>
<td>Nurturance of sibling (i.e., Sascha nurtures Ramona)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Admiration by sibling (i.e., Ramona admires Sascha)</td>
<td>1</td>
<td>3.67</td>
</tr>
<tr>
<td>Admiration of sibling (i.e., Sascha admires Ramona)</td>
<td>2.33</td>
<td>5</td>
</tr>
<tr>
<td>Affection</td>
<td>4</td>
<td>4.67</td>
</tr>
<tr>
<td>Dominance by sibling (i.e., Ramona dominates Sascha)</td>
<td>1.67</td>
<td>1.67</td>
</tr>
<tr>
<td>Dominance over sibling (i.e., Sascha dominates Ramona)</td>
<td>2.67</td>
<td>2.33</td>
</tr>
<tr>
<td>Quarreling</td>
<td>1</td>
<td>1.33</td>
</tr>
<tr>
<td>Antagonism</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Competition</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Maternal partiality</td>
<td>0.33</td>
<td>0.33</td>
</tr>
<tr>
<td>Paternal partiality</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 3.2

*Mother’s and sibling’s factor scores on the Sibling Relationship Questionnaire at baseline*

<table>
<thead>
<tr>
<th>SRQ factor</th>
<th>Mother’s score</th>
<th>Sibling’s score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth/closeness</td>
<td>2.19</td>
<td>3.62</td>
</tr>
<tr>
<td>Relative status/power</td>
<td>3</td>
<td>3.33</td>
</tr>
<tr>
<td>(Sascha over Ramona)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>1</td>
<td>1.11</td>
</tr>
<tr>
<td>Rivalry</td>
<td>0.17</td>
<td>0.17</td>
</tr>
</tbody>
</table>

**Contextual Fit**

**Morning self-care routine.** Ramona’s mother and sibling completed an evaluation of the contextual fit of the support plan for the morning self-care routine. The average rating of contextual fit reported was 4.28 by Ramona’s mother and 4.39 by Ramona’s sibling (1 = little contextual fit; 5 = a lot of contextual fit). The results of the contextual fit evaluation suggest that the mother and sibling believed that the support plan had good contextual fit with their daily routines, family strengths, goals, values, and beliefs.

**Initial Interventionist Training Data**

**Morning self-care routine.** Figure 3.3 presents training data that were collected on the prompt level of each step in the morning self-care routine for the six IIT sessions that I completed with Ramona. For the first two sessions, Ramona was able to complete 50% of steps in the routine independently or with minimal prompting (i.e., verbal or gestural prompting).
During the third session, I introduced Sascha into the self-care routine, both modeling the use of plan strategies and coaching Sasha in the use of strategies with Ramona in the routine. Doing so was associated with an immediate decrease in steps completed independently or with minimal prompting to 31.25%. In addition, problem behaviour, which occurred minimally during the first two sessions with me alone, increased precipitously when Sascha was engaged in implementing plan strategies with Ramona in the routine. Following this session, I consulted with the Principal Investigator of the study and together we generated a hypothesis about one factor that likely played a role in this setback. Our hypothesis was that the sudden deterioration in Ramona’s participation and cooperation in the routine when Sascha was introduced to supporting Ramona was due to the history of escape-driven coercive interaction mentioned above in the methods section (see page 56) that likely existed between the siblings. Given this hypothesis, I took a measured step-back in the training process. During the subsequent three training sessions, I served as the sole interventionist while Sascha watched from a short distance. This change however did not result in an improvement in Ramona’s participation and cooperation with me that matched the first two sessions. Ramona’s performance remained low, with an average of 33.33% (range, 31.25 to 37.5%) of intervals of steps completed independently or with minimal prompting.
Figure 3.2

Clinical data for the percentage of steps completed independently or with verbal or gestural prompts for the morning self-care routine during initial interventionist training phase.
4 DISCUSSION

This study investigated three research questions: (a) is there a functional relation between the implementation of a family-centred positive behaviour support plan designed to be sibling-friendly and improvements in challenging behaviour in a child with ASD, the number of steps completed in a routine, and the latency to routine completion, for a child with ASD and his/her typically developing sibling in a home setting?; (b) is there an association between implementation of a family-centred positive behaviour support plan designed to be sibling-friendly and improvements in scores on the Sibling Relationship Questionnaire, for a sibling of a child with ASD in the home?; and (c) will the PBS plan have social validity, as measured by parent and sibling perceptions of the importance, acceptability, usefulness, ease of implementation, and outcomes of the intervention? The following section will summarize and interpret the results with respect to each research question. Additional topics discussed include: (a) the initial interventionist training results; (b) the role of the family’s culture on the selection and definition of routines; and (c) the role of the sibling as an “interventionist” versus older sibling with care-giving responsibilities.

Summary and Interpretation of Results

With regards to the first research question, baseline data have been collected for the three dependent variables (i.e., challenging behaviour, steps successfully completed, and latency to termination or successful completion). In the morning self-care routine, Ramona engaged in high levels of challenging behaviours (M = 72.3%) and successfully completed few, if any, steps in the routine (M = 4.2%). In addition, all three baseline sessions were terminated before the three minute mark (M = 1 min, 41 sec). In the turn-taking game routine, Ramona engaged in high levels of challenging behaviour (M = 71.2%) and successfully completed few, if any, steps in the
routine (M = 13.7%). Two sessions were terminated before the three minute mark, with the third session being terminated not much beyond the three minute mark (M = 1 min, 48 sec). Until experimental data are collected during intervention, this research question remains unanswered.

Regarding the second research question, baseline scores on the SRQ have been collected. Until post-intervention scores on the SRQ are collected, one cannot know if there is an association between the intervention and improved scores on the SRQ.

Overall, both Ramona’s mother and sibling reported moderate to high levels on scales related to sibling warmth and closeness. The high scores, however, come from Sascha’s behaviour toward Ramona (e.g., Sascha engaging in prosocial behaviour and feeling admiration towards Ramona), whereas lower scores were reported when asking about Ramona engaging in these types of positive behaviours towards Sascha. Furthermore, Ramona’s sibling tended to report a more positive sibling relationship than the mother. Sascha’s scores may be higher as she appeared to respond more positively when asked about Ramona’s behaviour (e.g., when asked how much Ramona admires and respects Sascha, Sascha responded with a 5 (very much), while the mother responded with a 1 (hardly at all)).

Both the mother and sibling reported low levels of sibling conflict and parental partiality. However, there is a concern that the SRQ may not accurately measure the sibling relationship quality for this population. The SRQ was created to measure the sibling relationship quality of typically developing siblings, and many questions may not be applicable to sibling dyads in which one child has limited verbal communication. The questions about conflict examine traditional forms of sibling conflict, such as teasing, being mean, quarreling, etc., which may not be relevant for some sibling dyads in which one child has ASD. These questions in particular did not seem relevant to Ramona and Sascha, as Ramona had limited verbal communication. The
conflict that existed between Ramona and Sascha involved challenging behaviour exhibited by Ramona toward Sascha (e.g., physical aggression). This type of conflict was not included in the SRQ and so the low conflict scores between Ramona and Sascha may not accurately reflect their true sibling relationship. A similar concern exists with a few questions in the warmth and closeness domain. A few questions ask about siblings sharing secrets and telling each other everything, which are not applicable to Ramona and Sascha. These questions, however, may be applicable to sibling dyads in which the child with ASD has good verbal communication skills.

The third research question examines whether the family-centred PBS approach, designed to be sibling-friendly, was socially valid. The social validity assessments have not yet been completed by the family, therefore, this research question remains unanswered.

**Initial interventionist training results.** IIT training results showed a pattern of deterioration in performance when the older sibling attempted to implement the strategies in the morning self-care routine. This deterioration appeared to provide further evidence of the history of coercive interaction between the two siblings described above. Specifically, it was easier for me to implement the strategies in the first two training sessions because no history of challenging behaviour between Ramona and me existed. In contrast, the older sibling likely had a history of escape driven coercive interactions with Ramona when the older sibling asked Ramona to do something. When the older sibling became an active participant in the self-care routine, it appeared that this behavioural history of interaction came into play and affected the older sibling’s and the researcher’s ability to teach Ramona.

Many siblings of children with a disability may face challenges when trying to teach a skill to their sibling with a disability because of a history of coercive patterns of interaction. If a child with a disability engages in challenging behaviour in response to a sibling’s instructions,
the sibling will likely withdraw the instruction to terminate the challenging behaviour. Without help from a parent or professional, it may be difficult for a sibling to change this coercive pattern of interaction into a constructive one. Therefore, for families that wish to address this issue, it is important to design educational and behavioural support plans and implementation supports that recognize and directly address coercive patterns of interaction in order to transform them into constructive ones. This process would involve: (a) helping family members understand the coercive patterns of interaction that are operating within interactions with their child with a disability; (b) collaboratively developing with family members acceptable and effective behaviour support plans that diminish coercive patterns of interaction and build constructive patterns of interaction; (c) using fading methods that gradually transfer stimulus control from the interventionist to the parents and, if desired by the family, to one or more typically developing siblings; and (d) understanding that transferring stimulus control of constructive patterns of interaction from an interventionist to a sibling may take more time if there is a well-established history of escape-driven coercive processes operating between the siblings.

**Role of culture.** Although I did not directly ask the family about cultural values, beliefs, or practices, the open-ended questions in the family and sibling ecology assessments may have allowed the family to make decisions related to setting selection and PBS plan design that were based on their cultural values and beliefs. In the sibling ecology assessment, the family described routines and the types of interactions that they believed were important for the children to engage in together. They may have chosen the play routine and care-giving routine because the family believed that those types of interactions were valuable. During the family ecology assessment, the family described a number of goals for their child with a disability and for the family as a whole, including Ramona engaging in cooperative play activities with Ramona and Sascha
helping Ramona with self-care tasks. These goals may have been based on the family’s cultural values and beliefs such as caring and compassion and long-term planning for the future. They also may have selected these goals, particularly the goal of Sascha taking on a care-giving role, based on the severity of Ramona’s disability and the eagerness Sascha showed in wanting to help her younger sister. Although there is a common view in the psychological literature in North America that having a sibling assist with care-giving of younger siblings has negative psychological implications (East, 2010), it appears that the cultural values and beliefs of this family, as well as the presence of a child with a severe disability, may have contributed to their decision that Sascha helping Ramona was an acceptable form of sibling interaction. In many cultures, it is normative for older siblings to play the role of care-giver with their younger siblings (Dilworth-Anderson, Williams, & Gibson, 2002; East, 2010). This particular family, of Chinese heritage, appeared to hold this cultural view as well.

**Role of sibling.** In this study, it could be argued that the older sibling will be taught to act as an “interventionist” in that she will be implementing the same strategies in a behaviour support plan that a behavioural interventionist has implemented. The role of a sibling as an interventionist may be viewed as problematic because it deviates from a typical relationship that siblings have with each other, and may impose more responsibility on an older sibling than would be deemed appropriate. The goal of this study, however, was not to teach Sascha to become an interventionist but rather to empower her to become a successful older sibling: An older sister who is able to play with her younger sister in an age appropriate way and assist her with common self-care tasks. This family goal also included the expectation that Sascha’s ability to do so would maintain and extend into adulthood. Currently, Sascha is rarely able to interact with Ramona in ways that are age-appropriate and mutually enjoyable because of Ramona’s
challenging behaviour. When Sascha is able to effectively implement the strategies in the behaviour support plan and gain Ramona’s participation and cooperation in the two targeted routines, rather than becoming an interventionist, she will more fully realize the role of an older sister that she and her family have envisioned. Over time, Sascha’s effective use of these strategies may lead to Ramona’s skill progression in the two target routines, similar to an older sibling teaching a younger sibling how to play a new game or how to do a new hairstyle. Most important, Sascha’s ability to effectively support Ramona will allow her to fulfill the roles that she and her family would like her to play in Ramona’s life now and into the future.

Limitations and Cautions

Three major limitations and one caution of this study are as follows: (a) a lack of experimental results; (b) the use of a multi-component intervention package; (c) limited external validity; and (d) the assessment and intervention process may not be an efficient use of time.

Lack of experimental results. Due to time constraints, no experimental data during intervention have been collected. As a result, no statements can be made about whether or not the intervention was effective.

Use of a multi-component intervention package. This study used a multi-component intervention package, including a comprehensive assessment and multiple setting event, antecedent, teaching, and consequence strategies. If the intervention is successful upon completion of the study, there will be no way to determine which specific component(s) of the intervention contributed to the success. Furthermore, it cannot be determined whether the addition of the sibling ecology assessment, designed with the intent to create a sibling-friendly PBS plan, in any way enhances the outcomes that would have been achieved with a traditional PBS process without the sibling ecology assessment. Further research in this area is necessary to
determine the extent to which the sibling ecology assessment contributes to intervention outcomes.

**Limited external validity.** The participants in this study included one family with two daughters, the younger of which had a diagnosis of ASD and a severe intellectual disability. If the intervention is successful upon completion, the inclusion of only one family with a specific set of characteristics limits the ability to generalize the effects to other participants with different characteristics, in different settings, and with different behaviours. It is possible that results could differ if characteristics of the sibling dyad differed (e.g., siblings are younger or older in age, one sibling is male, both siblings are male, the older sibling has ASD while the younger sibling is typically developing, etc.). The study only intervened in two home-based routines in particular settings, limiting the ability to generalize to other settings in and outside of the home. Further research in this area with additional participants with varying characteristics, as well as different, settings, and target behaviours would be necessary to establish the external validity of the anticipated results.

**Efficiency of the intervention process.** If the intervention is successful upon completion of the study, the process may not be considered efficient due to the number of hours and sessions involved in assessment and intervention. Approximately three months were required to complete the comprehensive assessment and plan design phases before intervening in the first routine. However, during this time, the family was only available approximately once per week and sessions were canceled multiple times due to illness and holidays; it is probably that this process could be completed more quickly under different circumstances. To date, six sessions, lasting between 30 minutes to one hour, have been conducted in the IIT intervention phase with minimal progress. Although one cannot know how many more hours of intervention will be needed
before the family is able to successfully implement the PBS plan independently, it is likely that a significant number of additional hours will be necessary. It should be noted, however, that this study is being conducted with a child with a dual diagnosis of ASD and a severe intellectual disability who has limited communication skills. In addition, the sibling expected to implement the PBS plan is naïve to knowledge regarding teaching individuals with special needs, and the history of coercive processes appears to be very well established; all of which may contribute to the time requirement. As noted by Lucyshyn and colleagues (2014), attempting to transform coercive processes into constructive processes is very difficult to achieve, especially when the pattern of parent-child interactions is well established within the family system. Given that this is the first empirical attempt to transform coercive processes between a typically developing sibling and her sister with autism and a developmental disability, the increased time and effort may be necessary to create meaningful change in these circumstances.

**Future Research**

If the outcomes of this study are successful upon completion, future research would be necessary in three areas. First, future research should involve systematic replication and extension of results with additional participants with varying characteristics (e.g., culture, socioeconomic status, family construction, and age of children), settings (e.g., other settings within the home, community settings such as the playground, and other settings such as car rides), and target behaviours (e.g., different skills and different types of conflict such as arguing). Secondly, investigation into alternative methods to assess and improve the sibling relationship should be conducted. Perhaps for some families, a comprehensive PBS plan would not be necessary to create meaningful improvements in the sibling relationship. Future research could investigate the most efficient ways to improve sibling relationships (e.g., by comparing sibling
interventions such as parent-facilitated play and sibling-implemented play interventions) with this population and methods to assess specific characteristics of individual families and sibling dyads to determine which intervention would be most efficient for them. Finally, in order for the sibling ecology assessment to become a useful tool in assessing sibling relationships and informing interventions to improve sibling relationships, investigating the extent to which the inclusion of the sibling ecology assessment contributes to intervention outcomes is necessary.

Future research could include control group families, involved in a typical PBS process, in order to compare intervention, social validity, and contextual fit outcomes with families involved in the PBS process with the additional sibling ecology assessment.
REFERENCES


doi:10.1176/appi.books.9780890423349


APPENDIX A

Letter of Initial Contact

April 1, 2013

Dear Parent/Guardian:

The purpose of this letter is to inform you of an opportunity to participate in a research study whose purpose is to help families of young children with autism who engage in problem behaviour during valued family routines. The study is entitled, “Examining the Implementation of a Family-Centred Positive Behaviour Support Approach Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation.” The study will be conducted by the University of British Columbia. The Principal Investigator (PI) of the study is Joseph Lucyshyn, Associate Professor in the Faculty of Education of the University of British Columbia. The graduate student researcher is Victoria Sobie. The research study is for the fulfillment of degree requirements for the Master of Arts degree.

The purpose of the study is to examine the acceptability and effectiveness of a family centered approach to behaviour support designed to be sibling-friendly in reducing the challenging behaviour and improving the relationship between a child with autism and his or her sibling. The approach is based on best practice in positive behaviour support with families of children with developmental disabilities. Furthermore, the approach emphasizes the development of a collaborative partnership with family members and the design of positive behaviour supports that are both effective and a good fit with family culture and lifestyle. The study will evaluate the extent to which the approach:

1) improves child behaviour during the two target sibling routines
2) promotes the child’s successful participation in the two target sibling routines;
3) helps family members successfully support the child with a disability in interactions with his or her sibling; and
4) improves the quality of life of the child with a disability and the family as a whole.

Participation in the study will involve you and your family collaborating with members of the research team in four steps of the family support process, and in five research activities. The steps of the family support process are:

1) comprehensive assessment of child problem behaviour and family and sibling ecology;
2) collaborative development of a sibling-friendly positive behaviour support plan;
3) implementation support to help the family use behaviour supports in the target routines; and
4) follow-up support.
Research activities will include:
1) preliminary assessment to define the target routines and to confirm child problem behaviour;
2) videotaped observations in the target routines, under conditions that may produce problem behaviour, to confirm the purpose of problem behaviour;
3) videotaped observations in the target routines;
4) assessment of sibling relationship quality;
5) two additional interviews assessing family members’ perspectives and experiences during a process of sibling-friendly positive behaviour support.

Research and family support activities will occur for up to 9 months. During the first 7 months, your child and family will be involved in support and research activities for approximately 2 to 4 hours per week. This will vary based on your family’s availability and need. During the final 1-2 months of the study, the child and family’s involvement will decrease to approximately 1 to 2 hours per week. Support activities will include conducting assessments, collaboratively designing a behaviour support plan, and helping family members to implement the plan in the target routines. All activities will be scheduled on a day and at a time that is convenient for family members.

Families who choose to participate may experience four benefits. First, the child’s problem behaviour may decrease to near zero levels in the target routines. Second, the child may develop new behaviours and skills that help him or her participate in the target routines. Third, the sibling may enhance their skills interacting with and supporting his/her sibling with a disability. A potential fourth benefit is that other families of children with disabilities and their siblings may be helped through the sharing of knowledge gained in this study.

If you are interested in participating in the study, or learning more about the study, please contact Joe Lucyshyn at (604) 822-1904 or by email at joe.lucyshyn@ubc.ca. You may also contact Victoria Sobie at (604) 992-2285 or by email at victoriasobie@gmail.com. Alternatively, you may contact the agency representative who gave or sent to you this introductory letter. At that time, if you give the agency representative permission to release your name and phone number, Victoria Sobie will contact you by telephone to answer any questions that you may have. In any event, thank you for your time and consideration.

Sincerely,

Joseph M. Lucyshyn, Ph.D.
Associate Professor
Faculty of Education
University of British Columbia

Victoria Sobie, B.A.
Graduate Student Researcher
Faculty of Education
University of British Columbia
APPENDIX B

Examining the Implementation of a Family-Centred Positive Behaviour Support Approach Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation Telephone Pre-Screening Interview

Parent name: ____________________________  Phone # __________________
Date contacted: __________________________

This is a ten month research project designed to investigate an approach to behavioral family intervention that seeks to improve the sibling relationship between a child with autism and his/her typically developing sibling.

The study is recruiting families that meet the following criteria:

- Have a child with a formal diagnosis of autism
- Focus child is between five and ten years old
- Sibling is between seven and twelve years old
- Both parents/guardians speak English proficiently
- Focus child engages in observable problem behavior during sibling routines
- Parents do not perceive themselves to be in a “crisis” due to the child’s behavior or other family problems
- Parents/guardians agree to have an observer videotape child-parent interactions in typical routines in the home
- Sibling is willing to act as an interventionist with his/her sibling with autism
- Family is willing to participate in the study for at least one year
- Family is planning to stay in the same locale over the next year

Do you have questions about these criteria? Does your child and family meet the criteria I’ve described?

I’d like to ask some questions about your child, your family and your reasons for wanting to participate in this study

<table>
<thead>
<tr>
<th>Please describe your child: age, disability, school program or other services</th>
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<table>
<thead>
<tr>
<th>Please describe your family: members, occupations, ability to participate in a study</th>
<th></th>
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<tbody>
<tr>
<td>Briefly describe the problem behaviors your child displays</td>
<td></td>
</tr>
<tr>
<td>Briefly describe the sibling routines during which problem behaviors are most likely to occur</td>
<td></td>
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<tr>
<td>Briefly describe your reasons for wanting to participate in this study</td>
<td></td>
</tr>
<tr>
<td>Tell us about any questions or concerns you have about participating in a study</td>
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</table>

The next step is screening; screening involves a researcher making an appointment to visit your home, obtain your consent to conduct interviews and observations that will help us confirm that your child and family are eligible candidates for participation in the study.

Following screening, one family will be selected to participate in the study.

The research activities will consist of the following:
• A comprehensive functional assessment of the focus child’s problem behavior will be conducted.
• An assessment of the problematic sibling routines will be conducted. Family members will be asked to describe aspects of the routine that are currently not going well, but which they would like to improve. Two routines will be targeted for intervention.
• The researchers will work with family members to develop a behavioral support plan, and will train family members (mostly the sibling) to implement the plan.
• The researchers will videotape the problematic sibling routines before and after the behavior support plan is implemented and will collect other data about how the plan is working. (only the researchers will view the videotapes and they will be stored in a secure location, no confidential information will be shared with anyone outside the research team)
• Behavioral support plans will be updated and improved as needed
• A benefit of participation in this study is that families will receive up to 1 year of behavioral consultation and support in the problematic sibling routines identified.

Do you have any questions?

Are you interested in participating in the screening process?

Thank you for participating in this pre-screening interview. A researcher will contact you within the next 7–10 days.
APPENDIX C

CONSENT FORM FOR PARTICIPATION IN SCREENING PROCESS
Examining the Implementation of a Family-Centred Positive Behaviour Support Approach Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation

Principal Investigator: Joseph M. Lucyshyn, Ph.D.
Faculty of Education
University of British Columbia
2125 Main Mall
Vancouver, BC V6T 1Z4

Graduate Student Researcher: Victoria L. Sobie, B.A

Dear Parent/Guardian:

The purpose of this form is to request consent for your, for your child with a disability, and for other family members’ (focus child’s brother or sister) participation in a screening process for a research study. The study will be conducted in the Faculty of Education of the University of British Columbia. Joseph Lucyshyn is the Principal Investigator. The Graduate Student Researcher is Victoria Sobie. The research study is for the fulfillment of degree requirements for the Master of Arts degree. I am inviting your family to participate in the screening process because a representative of a local social service agency has recommended your child and family’s participation. After reading the consent form, if you have any questions, I will be happy to answer them to ensure that the screening procedures are fully understood.

PURPOSE OF STUDY

The purpose of the study is to examine the acceptability and effectiveness of a family centered approach to behaviour support designed to be sibling-friendly in reducing the challenging behaviour and improving the relationship between a child with autism and his or her sibling. The approach is based on best practice in positive behaviour support with families of children with developmental disabilities. Furthermore, the approach emphasizes the development of a collaborative partnership with family members and the design of positive behaviour supports that are both effective and a good fit with family culture and lifestyle. The study will evaluate the extent to which the approach:

1) Improves child behaviour during the two target sibling routines
2) Promotes the child’s successful participation in the two target sibling routines;
3) Helps family members successfully support the child with a disability in interactions with his or her sibling; and
4) Improves the quality of life of the child with a disability and the family as a whole.

Participation in the study will involve you and your family collaborating with members of the research team in four steps of the family support process, and in five research activities. The steps of the family support process are:
1) Comprehensive assessment of child problem behaviour and family and sibling ecology;
2) Collaborative development of a sibling-friendly positive behaviour support plan;
3) Implementation support to help the family use behaviour supports in target routines; and
4) Follow-up support.

Research activities will include:

1) Preliminary assessment to define the target routines and to confirm child problem behaviour;
2) Video recorded observations in the target routines, under conditions that may produce problem behaviour, to confirm the purpose of problem behaviour;
3) Video recorded observations in the target routines;
4) Assessment of sibling relationship quality;
5) Two additional interviews assessing family members’ perspectives and experiences during a process of sibling-friendly positive behaviour support.

Research and family support activities will occur for up to 8 months. During the first 5 to 6 months, your child and family will be involved in support and research activities for approximately 2 to 4 hours per week. This will vary based on your family’s availability and need. During the 6th and/or 7th month of the study, your child and family’s involvement will decrease to approximately 1 to 2 hours per week. During the final month of the study, your child and family’s involvement will further decrease to 1 to 2 hours per month. Support activities will include conducting assessments, collaboratively designing a behaviour support plan, and helping family members to implement the plan in the target routines. All activities will be scheduled on a day and at a time that is convenient for family members. Research and family support activities are described below:

CRITERIA FOR PARTICIPATION IN STUDY

Before a family can participate in the study, we first need to confirm that the child and family meet the criteria for participation. A total of one (1) family will participate in the project. The family will meet the following criteria:

- Have a child with a formal diagnosis of autism;
- Focus child is between five and ten years old;
- Focus child engages in observable problem behaviours during routines involving sibling interaction;
- Sibling is between the ages of seven and twelve years old
- Parents/guardians agree to have an observer videotape child-parent interactions during the sibling routine;
- Sibling is willing to act as an interventionist with his/her sibling with a disability;
- Family is willing to participate in the study for at least one year; and
- Family is planning to stay in same locale over the next year.

SCREENING PROCESS
We have developed a screening process to find out if your child and family are eligible to participate in the study. We will first contact you by telephone, review the criteria for participation, and answer any questions you may have. We will then decide together whether to proceed with the screening process. The specific steps in the process are described below.

1. **Preliminary interview.** We will first meet with you in your home or a place that is more convenient for you and conduct a preliminary interview. The interview is focused on understanding your child’s problem behaviours in the home, with a particular focus on the bedtime routine. The interview will take approximately one hour.

2. **Preliminary observations.** If the interview indicates that your child is a good fit for the study, then we will request permission to conduct observations in the home. With your permission, I will observe your children during the sibling routine in which problem behaviours regularly occur. During the observation, I will use an observation form to gather data about child problem behaviours. A minimum of 2 to 4 observations will be conducted. Each observation will last between 3 and 15 minutes.

3. **Informed consent for study participation.** If the observations confirm the presence of durable problem behaviours in the sibling routine in the home, then we will invite you to participate in the study. At that time, we will ask you to read and sign an informed consent letter for participation.

POTENTIAL RISKS AND SAFEGUARDS

If you agree to participate and permit your child and family to participate in the screening process, you will need to consider four potential risks: (1) physical; (2) psychological; (3) legal; and (4) loss of confidentiality.

1. **Physical Risk** Because your child engages in problem behaviour, there is more than a minimal risk that you, your child, or another family member may experience a physical injury during the screening process. Every precaution will be taken to minimize this risk:
   a. Members of the project team have extensive experience working with children who engage in problem behaviour in home and community settings.
   b. Criteria for participation includes children who engage in low to moderate intensity problem behaviour, thus reducing the possibility of physical risk due to high intensity problem behaviour.
   c. Observations will be terminated if your child begins to engage in medium or high intensity problem behaviour.
   d. As needed, project staff will be available to assist you, your child, and other family members during observations.

2. **Psychological Risk** Because your family will be observed during home and community routines, you, your child, or other family members may experience psychological risk. That is, you, your child, or other family members may feel some discomfort or stress during this activity. Several steps will be taken to guard against this risk:
a. During observations, the observer will maintain a low profile and not call attention to him or her self.
b. You or other family members can terminate an observation at any time.
c. Preliminary interviews will be conducted at a time and place that is convenient for you and your family.

3. Legal Risk A potential but minimal risk relates to the legal requirements around reporting abuse if it is witnessed. If members of the research team witness any abuse of the focus child by any person, they will have to report it to the appropriate provincial authorities. This risk will be guarded against in the following ways:
   a. The study focuses on providing family members with positive, non-punitive ways to prevent and manage child problem behaviour. Family members who develop these skills are unlikely to engage in child maltreatment; and
   b. If abuse is observed, the parents will be informed and invited to participate in reporting the incident. If the parents do not wish to report the incident themselves, the Child, Family and Community Service Act of B.C. requires that anyone who has reason to believe that a child may be abused, neglected, or is for any other reason in need of protection, must report the incident. The research team will then refer the parents to appropriate family support services or a community agency.

4. Loss of Confidentiality There is a risk that you, your child, or another family member may experience a loss of confidentiality. To guard against this risk we will:
   a. Change the names of all persons, places, and programs described on assessment forms;
   b. Allow access to information only to members of the research team;
   c. Keep all data, notes, and video files in a locked file or on a password protected computer in a secure office; and
   d. Destroy all data, collected solely for the purposes of screening, 5 years after study.

POTENTIAL BENEFITS

By participating in the screening process, you and your child will experience one of two potential benefits. These are listed below.

1. Participation in family support research study. If the screening process indicates that your child is a good fit for the family support study, you will be invited to participate in the research study. There are five specific benefits of participation:
   a. your child’s behaviour problems may decrease to near zero levels during the sibling routine.
   b. your child may develop new skills that help him or her participate in the sibling routine.
   c. the quality of sibling interactions may improve and the sibling’s knowledge and skills in interacting with and supporting his/her sibling with a disability may be enhanced.
   d. through participation, other families who have children with disabilities may also benefit. This will occur by describing the study’s results in journals and at conferences.

However, because behavioural and quality of life improvements cannot be assured, it is possible that you and your family may not experience all of the benefits listed above.
2. **Assessment report and recommendations.** If the screening process does not indicate that your child is a good fit for the study, then we will provide you with three benefits:
   a. summary of the preliminary interview and/or observations;
   b. recommendations for behaviour support that are based on the interview and/or observations; and
   c. referral to appropriate, alternative sources for family and behavioural support in your community.

**ALTERNATIVES**

If during the screening process, you choose not to participate in the study, we will refer you to appropriate, alternative sources for family and behavioural support in your community.

**RIGHTS AS A RESEARCH PARTICIPANT**

Your participation and that of your child and other family members in the screening process is voluntary. Your decision whether or not to participate and to allow your child and other family members to participate will not have any affect on your child’s education, the provision of support from a community agency, or future opportunities for behaviour consultation and support. If you agree to participate and allow your child and other family members to participate, you are free to withdraw consent and refuse to continue your participation and that of your child and family. You may do so at any time without penalty or loss of benefits to which you, your child, or other family members are otherwise entitled. Terminating participation in the study will have no negative impact on the graduate student’s thesis research whatsoever. If you withdraw early in the research, the graduate student will recruit another family for the study. If you withdraw later, the graduate student will complete her thesis using the data gathered up to the point of study termination. By signing the consent form, you do not waive any of your legal rights. If you have any questions, please contact Dr. Joseph Lucyshyn, Faculty of Education, University of British Columbia, 2125 Main Mall, Vancouver, B.C., V6T 1Z4, (604) 822-1904. Alternatively you can also contact Victoria Sobie, Graduate Researcher, at (604) 992-2285. If you have any concerns about your rights or treatment as a research participant, you may contact the Research Subject Information Line in the UBC Office of Research Services at (604) 822-8598. Your signature below indicates that you have received a copy of this consent form for your records. Your signature indicates that you consent to your, your child with a disability and other family members (i.e., siblings) participation in the study.

Sincerely,

Joseph M. Lucyshyn, Ph.D. Victoria Sobie, B.A.
Principal Investigator Graduate Student Researcher
Faculty of Education Faculty of Education
University of British Columbia University of British Columbia
CONSENT FORM FOR PARTICIPATION IN SCREENING PROCESS
Examining the Implementation of a Family-Centred Positive Behaviour Support Approach Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation

Study Title: Examining the Implementation of a Family-Centred Positive Behaviour Support Approach Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation (the “Study”)

Principal Investigator: Joseph Lucyshyn, Ph.D. Faculty of Education, UBC
Graduate Student Researcher: Victoria Sobie, B.A., Faculty of Education, UBC

By signing below, you agree that you have read and received a copy of all six pages of the consent form and have had an opportunity to ask questions about the research project and the screening process. You have received an adequate description of the purpose, goals, and procedures of the screening process, and you consent to participate in the screening process. You understand that all information will be kept confidential, that my participation is voluntary, and that you may withdraw consent at any time and discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled, and that you are not waiving any legal claims, rights, or remedies. By signing below, you agree to participate in the screening process of the research study on positive behaviour support with families of children with autism and sleep problems under the terms stated above.

___________ YES, you consent to participate in the screening process and give permission for your child with a disability and other family members (i.e., focus child’s brother and/or sister) to participate in the screening process.

___________ NO, you do not consent to participate in the screening process, and your child with a disability and other family members do not have your permission to participate in the screening process.

Focus Child’s Name:_______________________

Siblings’ Name:________________________________

Parent/Guardian Signature:________________________________ Date:__________

Parent/Guardian Signature:________________________________ Date: __________

PLEASE RETURN THIS PAGE TO:
Victoria Sobie, B.A., Graduate Student Researcher
INFORMED ASSENT FOR FOCUS CHILD: SCREENING PROCESS
Examining the Implementation of a Family-Centred Positive Behaviour Support Approach
Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation

I have talked with your parents about a screening process. The screening process is the first step in a research project that you and your family might do with me. The purpose of the screening process is to find out if you and your family can participate in the research project. During the screening process, I will visit your home, talk with your parent(s), and observe you, your sibling, and your parents doing things together. For example, when you and your sibling are playing a game together.

The information from these talks and observations will help us decide whether you and your family will participate in the research project. During an observation, if you want me to stop, you just have tell your parents or me to stop. Also, anytime you want to stop the screening process (that is, stop me from coming over a few times to observe), then just tell your parents and I will stop. After we finish the talks and observations, we will be able to decide what to do next. If we invite you and your family to participate in the research project, then we will visit you more often and observe more often. At that time, we will help your family teach you to go to bed happily and sleep through the night calmly. Also, we will use a video camera to observe [show video camera and role play videotaping] how you and your family are doing during the sibling routines. If we are unable to invite you and your family to participate in the study, we will give your family a summary of the interview and observations. We also will give them suggestions about how to help you participate in the sibling routines.

I am telling you what I will do, so that you can tell me whether you would like to participate in the screening process, or would prefer not to participate. If you choose to participate, then your parent(s) will sign their name below. Remember, you can change your mind and stop the screening process at any time.

Name of participant: ___________________________

__________ YES, you agree to participate in the screening process

__________ NO, you do not agree to participate in the screening process

Signed:________________________________ Date:__________
BROTHER OR SISTER ASSENT FORM: SCREENING PROCESS
Examsiing the Implementation of a Family-Centred Positive Behaviour Support Approach
Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation

We are interested in learning how to help you and your parents support (name of focus child) at home during sibling routines. We plan to do this by conducting a study. Before we can begin the study, we need to find out if your family is eligible to participate in the study. We wish to do so by conducting a screening process with your family. We will interview your parents and observe you and _______ during two sibling routines, such as playing a game together.

We would like to ask you to participate in the sibling routines. If you agree to participate, we will ask you to do what you typically do during these routines. We will make sure that while you and your family are doing the sibling routines together, you and your family are safe and your privacy is respected.

When we begin, a person will visit your home to observe you, ________, and your parents during two sibling routines. We will observe once or twice to find out if ________ engages in problem behaviour in the routines. When an observer is observing the routine and collecting data on problem behaviour, he or she will do his or her best to stay out of the way. Also, the screening data will only be shared with members of the research team.

If the screening process shows that______ is a good fit for the study, then we will invite your family to participate in the study. During the study, we will help your family create happier sibling routines for you, ______, and your parents. We will do so by helping your family successfully support ______ in the routines. If the screening process does not show ______ to be a good fit for the study, then we will give your parents a summary of the information that we gathered, and suggest to them some ways that they can support ________ ‘s participation in the sibling routines.

While we are observing ______, you, and other family members, if you do not want to participate, just tell us. You won't get into any trouble. If you don't want to participate at all, you don't have to. Just say so. Also, if you have any questions about what you will be doing, or if you cannot decide, just ask us if there is anything you would like us to explain. If you want to try, please sign your name on the line below. Your parent(s) have already told us that it is alright with them if you want to participate in the screening process. Remember, you don't have to, and once you start you can rest or stop whenever you like.

Name of participant: ___________________________

_________ YES, you agree to participate
_________ NO, you do not agree to participate.

Signed:_____________________________ Date:__________
Witness:_____________________________ Date:__________
A. Description of Behaviors of Concern

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<tr>
<th>Behavior</th>
<th>Topography</th>
<th>Frequency</th>
<th>Duration</th>
<th>Intensity</th>
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Predictors

1. Time of day (When)

2. Setting (Where)

3. People (With whom)

4. Activity (What activity)

Possible Functions of Behavior

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<tr>
<th>Behavior</th>
<th>What does s/he get?</th>
<th>What does s/he avoid?</th>
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D. Child’s typical schedule of daily activities (home routines and community activities)

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<th>Time</th>
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APPENDIX E

CONSENT FORM FOR STUDY PARTICIPATION
Examining the Implementation of a Family-Centred Positive Behaviour Support Approach Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation

Principal Investigator: Joseph M. Lucyshyn, Ph.D.
Faculty of Education
University of British Columbia
2125 Main Mall
Vancouver, BC V6T 1Z4

Graduate Student Researcher: Victoria L. Sobie

Dear Parent/Guardian:

The purpose of this form is to request consent for your, for you child with Autism Spectrum Disorder (ASD), and for other family members’ (i.e., focus child’s brother and/or sister) participation in the research study. The study will be conducted in the Faculty of Education of the University of British Columbia. Joseph Lucyshyn is the Principal Investigator. The Graduate Student Researcher is Victoria Sobie. The research study is for the fulfillment of degree requirements for the Master of Arts degree. I am inviting your family’s participation because a representative of a local social service agency has recommended your child and family’s participation. After reading the consent form, if you have any questions, I will be happy to answer them to ensure that the procedures are fully understood.

PURPOSE OF STUDY

The purpose of the study is to examine the acceptability and effectiveness of a family centered approach to behaviour support designed to be sibling-friendly in reducing the challenging behaviour and improving the relationship between a child with autism and his or her sibling. The approach is based on best practice in positive behaviour support with families of children with developmental disabilities. Furthermore, the approach emphasizes the development of a collaborative partnership with family members and the design of positive behaviour supports that are both effective and a good fit with family culture and lifestyle. The study will evaluate the extent to which the approach:

5) Improves child behaviour during the two target sibling routines
6) Promotes the child’s successful participation in the two target sibling routines;
7) Helps family members successfully support the child with a disability in interactions with his or her sibling; and
8) Improves the quality of life of the child with a disability and the family as a whole.
FAMILY SUPPORT AND RESEARCH ACTIVITIES

Participation in the project will involve you and your family collaborating with the graduate student researcher in family support and research activities. Research and family support activities will occur for up to eight-months. This will vary based on your time and availability, as we will accommodate your schedule based on your preferences and needs. We anticipate that during the first five to six months, your child and family will be involved in support and research activities for approximately 2-4 hours per week. During the sixth and/or seventh month of the study, you child and family would be involved in support and research activities for approximately 1-2 hours per week. During the final month of the study, your child and family’s involvement in research and support activities will be approximately 1-2 hours per month. Research and family support activities are described below:

Preliminary Assessment. Preliminary assessment activities will involve two interviews with you and your typically developing child, with each interview lasting 1-2 hours. The purpose of the interviews is to select and prioritize two problematic sibling routines and to develop a preliminary understanding about your child’s problematic behaviours within the sibling routines. In addition, you and your typically developing child will complete a sibling relationship questionnaire. Following the interviews, we will conduct two to three pilot observations during the sibling routines. The purpose of these observations will be to verify the occurrence and purpose of problematic behaviours during the sibling routines. Each observation will last for 15-20 minutes.

Comprehensive Assessment. First, a functional assessment interview (FAI) will be completed. This will involve one meeting of 1-2 hours in length. The assessment will help us develop a comprehensive understanding of the conditions that occasion problematic behaviours and positive behaviours during sibling routines. Second, we will complete a family ecology assessment. This will involve one meeting of 1-2 hours in length in which we will learn about your family’s strengths, social supports and resources, stressors and goals for your child and family. Finally, we will complete a sibling ecology assessment, which will involve one meeting of 1-2 hours, in which we will learn about the kinds of activities your children do together, what kinds of interactions they have together, other factors that influence their relationship, and what an ideal sibling relationship would look like.

Positive Behaviour Support Plan Design. Following each of the above assessment activities, we will collaborate with you to build a positive behaviour support plan for two problematic sibling routines. This will involve two meetings of 1-2 hours in length. During these meetings, family members and the graduate student researcher will review assessment information for the routines and build support plans that fit well with the routines. The plans will be designed to improve child behaviour, sibling interactions, and the success of the routines.

Implementation Support. Training and support to help you and other family members implement the support plan during the sibling routines will occur approximately twice per week and involve 1-2 hours. During these meetings, the graduate student researcher will teach you and your typically developing child how to implement support strategies with your child with autism. After you have succeeded in improving child behaviour and sibling interactions during the
routines, we will transition to a phase of research called maintenance support. During maintenance support, we will provide training and support as needed for one to two additional months to ensure the sustainability of positive child and family outcomes.

*Follow-up.* During the last month of the study, we will conduct one to two observations one month after the end of the implementation support phase to assess the durability of outcomes. Following observations, follow-up support will be provided as may be needed or requested.

*Video Recorded Observations in Home-based Sibling Routines.* Video recorded observations in routines will occur an average of 1-2 times per week. During observation sessions, an observer will video record your child and family’s participation in the sibling routines. Each observation session will last between 20-30 minutes.

**POTENTIAL RISKS AND SAFEGUARDS**

If you agree to participate and permit your child and family to participate, you will need to consider four potential risks: (1) physical; (2) psychological; (3) legal; and (4) loss of confidentiality.

1. *Physical Risk* Because your child engages in problem behaviour, there is more than a minimal risk that you, your child, or another family member may experience a physical injury during the screening process. Every precaution will be taken to minimize this risk:
   a. Members of the project team have extensive experience working with children who engage in problem behaviour in home and community settings.
   b. Criteria for participation includes children who engage in low to moderate intensity problem behaviour, thus reducing the possibility of physical risk due to high intensity problem behaviour.
   c. Observations will be terminated if your child begins to engage in medium or high intensity problem behaviour.
   d. As needed, project staff will be available to assist you, your child, and other family members during observations.

2. *Psychological Risk* Because your family will be observed during home and community routines, you, your child, or other family members may experience psychological risk. That is, you, your child, or other family members may feel some discomfort or stress during this activity. Several steps will be taken to guard against this risk:
   d. During observations, the observer will maintain a low profile and not call attention to him or her self.
   e. You or other family members can terminate an observation at any time.
   f. Preliminary interviews will be conducted at a time and place that is convenient for you and your family.

3. *Legal Risk.* A potential but minimal risk relates to the legal requirements around reporting abuse if it is witnessed. If members of the research witness any abuse of the focus person by
any person, they will have to report it to the appropriate provincial authorities. This risk will be minimized in the following ways:

a. The study focuses on providing family members with positive, non-punitive ways to prevent and manage child problem behaviour. Family members who develop these skills are unlikely to engage in child maltreatment; and

b. If abuse is observed, the parents will be informed and invited to participate in reporting the incident. If the parents do not wish to report the incident themselves, the Child, Family and Community Service Act of B.C. requires that anyone who has reason to believe that a child may be abused, neglected, or is for any other reason in need of protection, must report the incident. The research team will then refer the parents to appropriate family support services or a community agency.

4. Loss of Confidentiality. There is a risk that you, your child, or another family member may experience a loss of confidentiality. To guard against this risk we will do the following:

a. Change the names of all persons, places, and programs described on assessment forms;

e. Allow access to information only to members of the research team;

f. Keep all data, notes, and video files in a locked file or on a password protected computer in a secure office; and

g. Destroy all data collected for the study five years after the study is completed.

POTENTIAL BENEFITS

By participating in the study, you, your child with ASD and other family members may experience three direct benefits and one indirect benefit. These are listed below:

1. Your child’s behaviour problems may decrease to near zero levels during the sibling routines;

2. Your child may develop new skills that help him or her participate in the bedtime/sleep routine.

3. The quality of sibling interactions may improve and your typically developing child’s and your knowledge and skills in supporting your child with autism may be enhanced.

4. Through participation other families who have children with disabilities may also benefit. This will occur by describing the study’s results in journals and at conferences.

However, because behavioural and quality of life improvements cannot be assured, it is possible that you and your family may not experience all of the benefits listed above.

Your participation and that of your child and family members is voluntary. Your decision whether of not to participate and to allow your child to participate will not have any effect on your child’s education, provision of support from a community agency, or future opportunities for behaviour consultation and support. If you choose not to participate in the study, we will refer you to appropriate, alternative sources of family and behavioural support in the community. If you agree to participate and allow your child and other family members to participate, you are free, at any time, to withdraw consent and refuse to continue your participation and that of your child and family. Terminating participation in the study will have no negative impact on the
graduate student’s thesis research whatsoever. If you withdraw early in the research, the graduate student will recruit another family for the study. If you withdraw later, the graduate student will complete her thesis using the data gathered up to the point of study termination. By signing the consent form, you do not waive any of your legal rights. If you have any questions, please contact Dr. Joseph Lucyshyn at (604) 822-1904 or Victoria Sobie at (604) 992-2285. If you have any concerns about your rights or treatment as a research participant, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598. Your signature indicates that you consent to your, your child with ASD, and sibling’s participation in the study.

Sincerely,

Joseph M. Lucyshyn, Ph.D.
Principal Investigator
Faculty of Education
University of British Columbia

Victoria Sobie, B.A
Graduate Student Researcher
Faculty of Education
University of British Columbia
CONSENT FORM

Study Title: Examining the Implementation of a Family-Centred Positive Behaviour Support Approach Designed to be Sibling-Friendly: A Single-Subject Experimental Investigation (the “Study”)

Principal Investigator: Joseph Lucyshyn, Ph.D. Faculty of Education, UBC
Graduate Student Researcher: Victoria Sobie, B.A., Faculty of Education, UBC

Consent: You have read, fully understand the contents, and received a copy of the attached letter of request to participate in the Study, and you hereby consent to participate and hereby give permission for your child with autism spectrum disorder (ASD) and his or her sibling (as identified below) to participate in the Study.

You hereby consent to and authorize the release to the Investigators, from time to time, of the information contained in my child’s biographical records documenting birth date, most recent IQ score and test, diagnostic information and medical records, and such other information as the Investigators may request from time to time, for the purposes of the Study. You understand that all such information will be kept confidential except that the results of the Study may be published for academic purposes and in such event, the identity of the child and family will be kept confidential at all times.

You further understand that the Study will involve the Investigators video recording your family in your home. However, you also understand that you may request that the researchers stop such video recording at any time. You also understand that only the Investigators will have access to this material unless you give your specific permission for it to be viewed by any other person.

You fully understand that your participation in the Study and that of your family is entirely voluntary and that you, on behalf of your family, may withdraw this consent and terminate your participation in the Study at any time. You also understand that you will receive a copy of all five pages of the consent form (including this signed consent form) for your own records.

Focus Child’s Name: ____________________________________
Sibling’s Name: ___________________________________________________

Parent/Guardian Signature: _______________________________ Date: _____________
Parent/Guardian Signature: _______________________________ Date: _____________

PLEASE RETURN THIS PAGE TO:
Victoria Sobie, B.A., Graduate Student Researcher
We are interested in learning how to help you and your parents support (name of focus child) during times at home when you and _____ do things together, such as play together or do a chore together. We call these times ‘sibling routines.’ That is, routines that you do with ____. We plan to help you and your family by conducting a study. We know that sometimes it's hard for _____ to do certain things with you without getting upset. We would like to help him/her and your family with this. We would do this by teaching you and your parents ways to help _____ stay calm and happy during times in the home when you and _____ do things together at home. We may also spend some time teaching _____ ways to get what he/she wants by using words or pictures instead of problem behavior. The things that you, ________, and your parents will learn will be pretty helpful.

We would like to ask you to participate in two of these sibling routines in the home. We will make sure that while you and your family are doing these routines together, everybody stays safe. We would also like to ask you participate in making a plan. You can help us choose what kind of things you want to do with your sibling, and we will teach you and your sibling to do those things. We would also like you to participate in a few interviews, to help us make the best plan and see if it is working. We will do our best to make _____’s life more enjoyable. By doing so, we also hope to make your life and your family’s life more enjoyable.

A person will visit your home to videotape you, ________, and your parents during two sibling routines. The person will videotape about twice a week. Later, he or she will videotape you, ________, and your parents just once or twice a month. He or she will try hard to stay out of the way. Later, we will look at the videotapes to see how well our help is working. We will make sure that only those people who need to see the videotape have a chance to see it. We would like to help your family for a pretty long time – up to eight months.

We believe that by agreeing to participate, you can help make a happier life for ________ and for your family. Your participation also will help us learn better ways to support other families. While we are helping your family or while a person is videotaping, if you do not want to participate, just tell us. You won't get into any trouble. If you don't want to participate, you don't have to. Just say so. Also, if you have any questions about what you will be doing, or if you cannot decide whether to participate, just ask us if there is anything you would like us to explain.

If you want to try participating, please sign your name on the line below. Your parent(s) have already told us that it is okay with them if you want to participate. But remember, you don't have to, and once you start you can rest or stop whenever you like.

Signature of participant: ____________________________________________
Name of participant (please print): __________________________________

______ YES, I agree to participate.
______ NO, I do not agree to participate.
# Sibling Routine Assessment

A. Typical schedule of daily or weekly activities siblings engage in together (home routines and community activities)

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B. Home routines involving siblings in which problem behaviors typically occur, and your priorities for improvement.

C. Community activities involving siblings in which problem behaviors typically occur and your priorities for improvement.

D. Home or community routines involving siblings that you have been significantly altered or that you no longer do because of problem behavior, and your priorities for improvement.

E. Across home and community routines, and values routines that you have significantly altered or no longer do, what would your priorities be? When considering priorities for intervention it can be helpful to consider beginning with routines that, all things considered: (a) may be easiest in regard to promoting initial change; or (b) may prove to be pivotal in that the success of this routine may naturally contribute to improvements in other family routines; or (c) may contribute to very important improvements in your family’s quality of life, and thus improvement in this routine may make it far easier to work on other priority routines. As a cautionary note, it also may be helpful not to begin with a routine that upon reflection would require so many changes related to family members and family life that the change process may prove to be quite daunting in terms of time and energy expended.
Based on results from the functional assessment (FA) and from the sibling routine assessment, summarize the priority routines for intervention with regard to FA results.

<table>
<thead>
<tr>
<th>Time</th>
<th>Routine or Activity</th>
<th>Predictors</th>
<th>Problem Behavior(s)</th>
<th>Maintaining Consequence</th>
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APPENDIX G

Sibling Ecology Assessment

A) Activities

1) What kinds of play activities do your children do together? (e.g., cooperative, parallel, mentored, accomplishment, silly verbal/physical, rule-based games)

   a. What are some positive things that happen during these activities?

   b. What are some negative things that happen during these activities?

   c. What are your goals and expectations for existing activities

   d. Are there any activities that are missing that you wish they did together?

   e. How important are these types of activities to you? (1 = not important at all to 5 = very important). Please explain why you chose that number.
2) What kinds of leisure activities do your children do together? (e.g., activities in the community, reading, watching TV, watching movies, playing videogames, biking)

   a. What are some positive things that happen during these activities?

   b. What are some negative things that happen during these activities?

   c. What are your goals and expectations for existing activities

   d. Are there any activities that are missing that you wish they did together?

   e. How important are these types of activities to you? (1 = not important at all to 5 = very important). Please explain why you chose that number.
3) What kinds of care-giving activities do your children do together? (e.g., make snack, help get ready, help set up an activity, help with chores, help with homework)

a. What are some positive things that happen during these activities?

b. What are some negative things that happen during these activities?

c. What are your goals and expectations for existing activities?

d. Are there any activities that are missing that you wish they did together?

e. How important are these types of activities to you? (1 = not important at all to 5 = very important). Please explain why you chose that number.
4) What kinds of shared routines do your children do together? (e.g., meals, bedtime, car rides, chores)

a. What are some positive things that happen during these activities?

b. What are some negative things that happen during these activities?

c. What are your goals and expectations for existing activities

d. Are there any activities that are missing that you wish they did together?

e. How important are these types of activities to you? (1 = not important at all to 5 = very important). Please explain why you chose that number.
Sibling Ecology Assessment

B) Interaction Patterns

1) Prosocial:
   a. Do you and your sibling/do your children do nice things for each other, cooperate with each other, and share things with each other? How much? Examples?
   
   b. What would you like this to look like (e.g., expectations, goals)?
   
   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.

2) Nurturance of sibling:
   a. Does _______ (TD child) show _______ (child with ASD) how to do things, help your sibling, and teach your sibling how to do things he/she doesn’t know how to do? How much? Examples?
   
   b. What would you like this to look like (e.g., expectations, goals)?
   
   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.
3) Nurturance by sibling:
   a. Does _______ (child with ASD) show _______ (TD child) how to do things, help you, teach you things you don’t know how to do? How much? Examples?

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.

4) Affection:
   a. Do you and your sibling/do your children care about each other, love each other, have feelings of affection for each other? How much? Examples?

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.
5) Companionship:
   a. Do you and your sibling/do your children go places and do things together, play and have fun together, spend free time together? How much? Examples?

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.

6) Similarity:
   a. Do you and your sibling/do your children like the same things, have things in common, behave alike? How much? Examples?

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.
7) Intimacy:
   a. Do you and your sibling/do your children tell each other everything, share secrets and
      private feelings, and tell each other things don’t want others to know? How much?
      Examples?
   b. What would you like this to look like (e.g., expectations, goals)?
   c. How important are these activities to you? (1 = not important at all to 5 = very
      important). Explain why you chose that number.

8) Admiration of sibling:
   a. Does _______ (TD child) admire and respect, look up to and feel proud of, and think
      highly of _______ (child with ASD)? How much? Examples?
   b. What would you like this to look like (e.g., expectations, goals)?
   c. How important are these activities to you? (1 = not important at all to 5 = very
      important). Explain why you chose that number.
9) Admiration by sibling:
   a. Does ________ (child with ASD) admire and respect, look up to and feel proud of,
      and think highly of ________ (TD child)? How much? Examples?

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very
      important). Explain why you chose that number.

10) Dominance of sibling:
   a. Does _______ (TD child) tell ________ (child with ASD) what to do, make
      ________ (child with ASD) do things, and order ________ (child with ASD) around?
      How much? Examples.

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very
      important). Explain why you chose that number.
11) Dominance by sibling:
   a. Does ________ (child with ASD) tell ________ (TD child) what to do, make ________ (TD child) do things, and order ________ (TD child) around? How much? Examples?
   b. What would you like this to look like (e.g., expectations, goals)?
   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.

12) Antagonism:
   a. Do you and your sibling/do your children insult and call each other names, act meanly towards each other, and bug and pick on each other in mean ways? How much? Examples?
   b. What would you like this to look like (e.g., expectations, goals)?
   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.
13) Competition:
   a. Do you and your sibling/do your children try to out-do each other, compete with each other, and try to do things better than each other? How much? Examples?

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.

14) Quarreling:
   a. Do you and your sibling/do your children disagree and quarrel, get mad, and argue with each other? How much? Examples?

   b. What would you like this to look like (e.g., expectations, goals)?

   c. How important are these activities to you? (1 = not important at all to 5 = very important). Explain why you chose that number.
Sibling Ecology Assessment

C) Sibling Concerns/Opportunities

I’m going to ask you some questions about your experiences, thoughts, and feelings related to your sibling with special needs. We will discuss some positive things and some not so positive things. If you don’t feel like answering a question, that is okay, you don’t have to. Your answers won’t get you into any trouble. I won’t share anything you say with your parents unless you tell me it is okay.

1. What are some thoughts, feelings, or experiences you want to share about the relationship between you and your sibling with special needs? Between your parents and your sibling? Between you and your parents?

2. Everyone has strengths (things they are good at) and weaknesses (things they are not so good at). What are some strengths of your sibling with special needs? What are some weaknesses?

3. Your sibling has a disability but you are what is called “typically developing”, meaning you do not have a disability. What are your thoughts or feelings about that?

4. You do many things with your sibling in the community, what are some good things that occur? What are some not so good things that may occur?

5. You have a sibling with special needs, but many of your friends probably have siblings that are typically developing. What are your thoughts, feelings, or experiences you wish to share about that?

6. What is something that your parents have done especially well regarding your sibling with a disability? What is something you wish your parents would do differently?

7. What are your thoughts and feelings about the future regarding your sibling with special needs?
8. Some families expect children to help out around the house a lot or help take care of younger siblings while other families do not. What are your thoughts, feelings, or experiences about what your family is like in this regard?

9. Is there anything about your sibling’s disability that you wish you knew more about?

10. What are some things you think you have learned because of your sibling with special needs?

11. What is one good thing about having a sibling with special needs? What is one not so good thing about having a sibling with special needs?

12. What are some other thoughts, feelings, or experiences about your sibling with special needs that we haven’t discussed that you wish to share?

13. What are your thoughts, feelings, and experiences about talking to your parents about any of these things? What are your thoughts, feelings, or experiences about talking with other people who are going through something similar as you?


APPENDIX H

Partial Interval Recording Form for Scoring Percentage of Intervals of Problem Behaviour

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**Major Problem Behaviour**

Intense crying
(with or without flopping)

| >1 min. | <1 min. |

Physical aggression
(hitting or kicking)


**Minor Problem Behaviour**

Physical resistance
(pushing away with hands or feet, pulling body part away)


Leaving assigned area


Staying out of assigned area
> 3 min.


Disruptive/destructive
(knocking, pushing, or pulling items off/over, grabbing items from another person, flopping on ground without crying)


Remaining flopped on floor
> 2 min.


**Very Minor Problem Behaviour**

Whining


Non-compliance


APPENDIX I

Social Validity Evaluation – Sibling

Family: _______________________

Date: _________________________

Family members completing evaluation: ________________________________

The purpose of this questionnaire is to obtain information that will help us understand how things are going in the two sibling routines. The information you provide can help us get better at helping you and your family. Please circle the number that matches what you think about each sentence (1 = disagree, 5 = agree). You also have space to write anything else you think will help us.

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<td>We are working on routines with my brother/sister that we really need to work on and make better.</td>
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<td>The behavior support plan is really hard to do with my brother/sister in the home or community.</td>
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<td>The strategies have helped my brother/ sister’s behaviour get better.</td>
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<td>The plan has caused some problems in our family.</td>
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<td>The research team has been good at teaching me and my family what to do.</td>
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<td>The research team has gotten along well with my family.</td>
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<td>10</td>
<td>Overall, the plan helped me, my brother/ sister, and my family get along better.</td>
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Social Validity Evaluation – Parents

Family: __________________________

Date: __________________________

Family members completing evaluation: __________________________

The purpose of this questionnaire is to obtain information that will aid in: a) the selection and improvement of behavioural support strategies implemented in the home or community by family members; and b) the improvement of our process for providing families with behavioural consultation and support. Please circle the number that best describes your agreement or disagreement with each statement (1 = disagree, 5 = agree). You also have space to write comments or suggestions for change or improvement.

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<td>The goals of the behavioural support plan are appropriate for my child.</td>
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<td>2.</td>
<td>The goals of the plan are consistent with my family's goals, values, and beliefs.</td>
<td>1 2 3 4 5</td>
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<tr>
<td></td>
<td>Comments:</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The strategies and procedures used are difficult to carryout in the home or community.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Comments:</td>
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<tr>
<td>4.</td>
<td>The strategies and procedures used are effective in improving my child's behaviour.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Comments:</td>
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</tr>
</tbody>
</table>
5. The outcomes of the support effort are beneficial for my child.  
   Disagree Agree
   1 2 3 4 5

   Comments:

6. The outcomes of the support effort are beneficial to my family as a whole.  
   Disagree Agree
   1 2 3 4 5

   Comments:

7. The support effort has caused some unanticipated problems in our family.  
   Disagree Agree
   1 2 3 4 5

   Comments:

8. Training activities have been well organized, clear, and helpful.  
   Disagree Agree
   1 2 3 4 5

   Comments:

9. The person(s) providing technical assistance has shown respect for our family's values and beliefs.  
   Disagree Agree
   1 2 3 4 5

   Comments:

10. Overall, this behavioural support effort has strengthened our family.  
    Disagree Agree
    1 2 3 4 5

    Comments:
APPENDIX J

Contextual Fit Evaluation
Revised October 2013

Name of Family:
Family Member(s) completing checklist:
Date:
Focus Routine:

Introduction: Research and practical experience show that the success of a support plan depends a great deal on whether the plan “fits” with the values and lifestyle of the family. The purpose of this survey is to understand the extent to which you believe the support plan developed for your son/daughter is a good fit for your family. Your responses will help us (a) improve the quality of the plan and (b) understand better how to build support plans that are most helpful. For the routine identified, please rate each question on a scale of one (1 – not at all) to five (5 – very well/much).

<table>
<thead>
<tr>
<th>Questions</th>
<th>Not at All</th>
<th>Not Much</th>
<th>Can’t Tell</th>
<th>Well/ (Much)</th>
<th>Very Well/ Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you believe the research team understands your child’s needs in this routine?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>2. Do you believe the plan is based on an understanding of the reasons for problem behavior (i.e., escape or attention)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Does the plan really address your highest priority goals for your child and family in this routine?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Do you understand what you are expected to do as part of this plan?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Do you understand what is expected of other family members?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Are you comfortable with what you and others are expected to do?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Does the plan recognize and support your needs as a mother or father?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Does the plan recognize and support the needs of other family members living in the home (e.g., siblings)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Overall, how well does the support plan fit with your family’s needs within this routine?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Overall, how well does the plan fit with your values and beliefs about raising your child with a disability and creating a meaningful family life together?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. To what extent does the plan build off of successful strategies you were using?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
12. Will the plan, in the long run, disrupt family routines in the home or community to a point that stress and hardship will be creating?

13. Does the plan recognize and build on you child’s and your family’s strengths?

14. Does the plan make use of resources (e.g., help from your spouse, respite care, etc.) available to you and your family?

15. To what extent would you like to see the use of available resources incorporated to a greater extent in your plan?

16. Does the plan include needs you may have for long-term social emotional support (e.g., someone with whom you discuss problems, someone with whom you do enjoyable activities)?

17. To what extent would you like to see long-term social emotional supports incorporated to a greater extent in the plan?

18. All things considered, how difficult will it be or is it for you to use this support plan (e.g., time involved, coordination of tasks, etc.)?

19. To what extent do you believe the support plan will be or is effective?

20. Do you believe you can keep using the support strategies for a long time (e.g., over one year) even if there is reduced contact with members of the research team?

* Items 12 and 18 are reversed questions; that is, good contextual fit is scored as a 1 or 2 rather than a 4 or 5. For this reason, scoring requires reversing the scores before adding these items to the calculation of an overall average. For example a 1 is reversed to a 5, and a 5 is reversed to a 1. These reversed scores are then included in the calculation of an average index of contextual fit.

** When calculating an average index of Goodness of Fit (also referred to as contextual fit), do not include items 15 and 17 in the scoring; that is, calculate the average index based on 18 items, not including the scores for items 15 and 17. These items offer a gauge of how important the preceding items (i.e., 14 and 16) are for the family, and thus do not contribute to an assessment of contextual fit.

Comments:
# APPENDIX K

**Sibling Relationship Questionnaire - Revised (Child) 3/90**

My name is _________________________________ (completed by)

The phrase “this sibling” refers to ________________ (completed about)

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<tr>
<td>1. Some siblings do nice things for each other a lot, while other siblings do nice things for each other a little. How much do both you and this sibling do nice things for each other?</td>
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<td></td>
<td>Hardly at all</td>
<td>Not too much</td>
<td>Somewhat</td>
<td>Very much</td>
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<td>2. Who usually gets treated better by your mother, you or this sibling?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>My sibling almost always gets treated better</td>
<td>My sibling often gets treated better</td>
<td>We get treated about the same</td>
<td>I often get treated better</td>
</tr>
<tr>
<td>3. How much do you show this sibling how to do things he or she doesn’t know how to do?</td>
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<tr>
<td></td>
<td>Hardly at all</td>
<td>Not too much</td>
<td>Somewhat</td>
<td>Very much</td>
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<tr>
<td>4. How much does this sibling show you how to do things you don’t know how to do?</td>
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<td></td>
<td>Hardly at all</td>
<td>Not too much</td>
<td>Somewhat</td>
<td>Very much</td>
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<tr>
<td>5. How much do you tell this sibling what to do?</td>
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<td></td>
<td>Hardly at all</td>
<td>Not too much</td>
<td>Somewhat</td>
<td>Very much</td>
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<td>6. How much does this sibling tell you what to do?</td>
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<td></td>
<td>Hardly at all</td>
<td>Not too much</td>
<td>Somewhat</td>
<td>Very much</td>
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<tr>
<td>7. Who usually gets treated better by your father, you or this sibling?</td>
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<td></td>
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<tr>
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<td>My sibling almost always gets treated better</td>
<td>My sibling often gets treated better</td>
<td>We get treated about the same</td>
<td>I often get treated better</td>
</tr>
</tbody>
</table>
8. Some siblings care about each other a lot while other siblings don’t care about each other that much. How much do you and this sibling care about each other?  
   - [ ] Hardly at all  
   - [ ] Not too much  
   - [ ] Somewhat  
   - [ ] Very much  
   - [ ] EXTREMELY MUCH

9. How much do you and this sibling go places and do things together?  
   - [ ] Hardly at all  
   - [ ] Not too much  
   - [ ] Somewhat  
   - [ ] Very much  
   - [ ] EXTREMELY MUCH

10. How much do you and this sibling insult and call each other names?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH

11. How much do you and this sibling like the same things?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH

12. How much do you and this sibling tell each other everything?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH

13. Some siblings try to out-do or beat each other at things a lot, while other siblings try to out-do each other a little. How much do you and this sibling try to out-do each other at things?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH

14. How much do you admire and respect this sibling?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH

15. How much does this sibling admire and respect you?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH

16. How much do you and this sibling disagree and quarrel with each other?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH

17. Some siblings cooperate a lot, while other siblings cooperate a little. How much do you and this sibling cooperate with other?  
    - [ ] Hardly at all  
    - [ ] Not too much  
    - [ ] Somewhat  
    - [ ] Very much  
    - [ ] EXTREMELY MUCH
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
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</table>
| 18. Who gets more attention from your mother, you or this sibling?      | [ ] My sibling almost always gets more attention  
[ ] My sibling often gets more attention  
[ ] We get about the same amount of attention  
[ ] I often get more attention  
[ ] I almost always get more attention |
| 19. How much do you help this sibling with things he or she can’t do by him or herself? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 20. How much does this sibling help you with things you can’t do by yourself? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 21. How much do you make this sibling do things?        | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 22. How much does this sibling make you do things?        | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 23. Who gets more attention from your father, you or this sibling?      | [ ] My sibling almost always gets more attention  
[ ] My sibling often gets more attention  
[ ] We get about the same amount of attention  
[ ] I often get more attention  
[ ] I almost always get more attention |
| 24. How much do you and this sibling love each other?        | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 25. Some siblings play around and have fun with each other a lot, while other siblings play around and have fun with each other a little. How much do you and this sibling play around and have fun with each other? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 26. How much are you and this sibling mean to each other?        | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
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</thead>
</table>
| 27. How much do you and this sibling have in common?                     | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 28. How much do you and this sibling share secrets and private feelings? | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 29. How much do you and this sibling compete with each other?            | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 30. How much do you look up to and feel proud of this sibling?           | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 31. How much does this sibling look up to and feel proud of you?         | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 32. How much do you and this sibling get mad at and get in arguments with each other? | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 33. How much do both you and your sibling share with each other?         | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 34. Who does your mother usually favor, you or this sibling?             | [ ] My sibling almost always is favored  
|                                                                         | [ ] My sibling is often favored  
|                                                                         | [ ] Neither of us is favored  
|                                                                         | [ ] I am often favored  
|                                                                         | [ ] I am almost always favored  
| 35. How much do you teach this sibling things that he or she doesn’t know? | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
|                                                                         | [ ] EXTREMELY MUCH |
| 36. How much does this sibling teach you things that you don’t know?     | [ ] Hardly at all  
|                                                                         | [ ] Not too much  
|                                                                         | [ ] Somewhat  
|                                                                         | [ ] Very much  
<p>|                                                                         | [ ] EXTREMELY MUCH |</p>
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<th>Question</th>
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<tr>
<td>37. How much do you order this sibling around?</td>
<td>[ ] Hardly at all</td>
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<td>[ ] Not too much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>38. How much does this sibling order you around?</td>
<td>[ ] Hardly at all</td>
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<td>39. Who does your father usually favor, you or this sibling?</td>
<td>[ ] My sibling almost always is favored</td>
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<td>[ ] My sibling is often favored</td>
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<td>[ ] Neither of us is favored</td>
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<td>[ ] I am often favored</td>
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<td></td>
<td>[ ] I am almost always favored</td>
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<td>40. How much is there a strong feeling of affection (love) between you</td>
<td>[ ] Hardly at all</td>
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<td>and this sibling?</td>
<td>[ ] Not too much</td>
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<td>[ ] Very much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>41. Some kids spend lots of time with their siblings, while others don’t</td>
<td>[ ] Hardly at all</td>
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<td>spend so much. How much free time do you and this sibling spend together?</td>
<td>[ ] Not too much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>42. How much do you and this sibling bug and pick on each other in mean</td>
<td>[ ] Hardly at all</td>
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<td>ways?</td>
<td>[ ] Not too much</td>
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<td>[ ] Very much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>43. How much are you and this sibling alike?</td>
<td>[ ] Hardly at all</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>44. How much do you and this sibling tell each other things you don’t</td>
<td>[ ] Hardly at all</td>
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<td>want other people to know?</td>
<td>[ ] Not too much</td>
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<td>[ ] Very much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>45. How much do you and this sibling try to do things better than each</td>
<td>[ ] Hardly at all</td>
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<td>other?</td>
<td>[ ] Not too much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>46. How much do you think highly of this sibling?</td>
<td>[ ] Hardly at all</td>
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<tr>
<td>47. How much does this sibling think highly of you?</td>
<td>[ ] Hardly at all</td>
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<td>[ ] Not too much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>48. How much do you and this sibling argue with each other?</td>
<td>[ ] Hardly at all</td>
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**Sibling Relationship Questionnaire - Revised (Parent) 3/90**

This questionnaire was completed by mother/father (circle one)

The phrase “this sibling” refers to __________________

Blank lines refer to ______________________________

<p>| | | |</p>
<table>
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</table>
| 1. | Some siblings do nice things for each other a lot, while other siblings do nice things for each other a little. How much do both ________ and this sibling do nice things for each other? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 2. | Who usually gets treated better by mother, ________ or this sibling? | [ ] This sibling almost always gets treated better  
[ ] This sibling often gets treated better  
[ ] The children get treated about the same  
[ ] ________ often gets treated better  
[ ] ________ almost always gets treated better |
| 3. | How much does ________ show this sibling how to do things he or she doesn’t know how to do? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 4. | How much does this sibling show ________ how to do things he or she doesn’t know how to do? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 5. | How much does ________ tell this sibling what to do? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 6. | How much does this sibling tell ________ what to do? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 7. | Who usually gets treated better by father, ________ or this sibling? | [ ] This sibling almost always gets treated better  
[ ] This sibling often gets treated better  
[ ] The children get treated about the same  
[ ] ________ often gets treated better  
[ ] ________ almost always gets treated better |
| 8. | Some siblings care about each other a lot while other siblings don’t care about each other that much. How | [ ] Hardly at all  
[ ] Not too much |
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>much do _______ and this sibling care about each other?</td>
<td>[ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>9. How much do _______ and this sibling go places and do things together?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>10. How much do _______ and this sibling insult and call each other names?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>11. How much do _______ and this sibling like the same things?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>12. How much do _______ and this sibling tell each other everything?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>13. Some siblings try to out-do or beat each other a lot, while other siblings try to out-do each other a little. How much do _______ and this sibling try to out-do each other at things?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>14. How much does _______ admire and respect this sibling?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>15. How much does this sibling admire and respect _______?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>16. How much do _______ and this sibling disagree and quarrel with each other?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>17. Some siblings cooperate a lot, while other siblings cooperate a little. How much do _______ and this sibling cooperate with other?</td>
<td>[ ]Hardly at all [ ]Not too much [ ]Somewhat [ ]Very much [ ]EXTREMELY MUCH</td>
</tr>
<tr>
<td>18. Who gets more attention from mother, _______ or this sibling?</td>
<td>[ ]This sibling almost always gets more attention</td>
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<td>Question</td>
<td>Options</td>
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<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
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</table>
| 19. How much does ________ help this sibling with things he or she can’t do by him or herself? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 20. How much does this sibling help ___________ with things he or she can’t do by him or herself? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 21. How much does ________ make this sibling do things? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 22. How much does this sibling make ___________ do things? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 23. Who gets more attention from father, ________ or this sibling? | [ ] This sibling almost always gets more attention  
[ ] This sibling often gets more attention  
[ ] The children get about the same amount of attention  
[ ] ________ often gets more attention  
[ ] ________ almost always gets more attention |
| 24. How much do ________ and this sibling love each other? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 25. Some siblings play around and have fun with each other a lot, while other siblings play around and have fun with each other a little. How much do ________ and this sibling play around and have fun with each other? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH |
| 26. How much are ________ and this sibling mean to each other? | [ ] Hardly at all  
[ ] Not too much |
<table>
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<tr>
<th>Question</th>
<th>Options</th>
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</table>
| 27. How much do _________ and this sibling have in common?              | [ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                  |
| 28. How much do ________ and this sibling share secrets and private feelings? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                      |
| 29. How much do ________ and this sibling compete with each other?      | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                      |
| 30. How much does__________ look up to and feel proud of this sibling?  | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                      |
| 31. How much does this sibling look up to and feel proud of ____________? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                      |
| 32. How much do _________ and this sibling get mad at and get in arguments with each other? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                      |
| 33. How much do both __________ and this sibling share with each other?  | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                      |
| 34. Who does mother usually favor, ________ or this sibling?            | [ ] This sibling almost always is favored  
[ ] This sibling often is favored  
[ ] Neither of the children is favored  
[ ] _________ is often favored  
[ ] _________ is almost always favored                                                                                                                                 |
| 35. How much does ________ teach this sibling things that he or she doesn’t know? | [ ] Hardly at all  
[ ] Not too much  
[ ] Somewhat  
[ ] Very much  
[ ] EXTREMELY MUCH                                                                                                                                                      |
| 36. How much does this sibling teach ________ things that he or she doesn’t know? | [ ] Hardly at all  
[ ] Not too much                                                                                                                                                                                                 |
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
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</table>
| 37. How much does_________ order this sibling around?                   | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
| 38. How much does this sibling order ______ around?                     | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
| 39. Who does father usually favor, _________ or this sibling?           | [ ]This sibling almost always is favored  
[ ]This sibling is often favored  
[ ]Neither of the children is favored  
[ ________often is favored  
[ ________almost always is favored |
| 40. How much is there a strong feeling of affection (love) between _______ and this sibling? | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
| 41. Some kids spend lots of time with their siblings, while others don’t spend so much. How much free time do _________ and this sibling spend together? | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
| 42. How much do _________ and this sibling bug and pick on each other in mean ways? | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
| 43. How much are _________and this sibling alike?                       | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
| 44. How much do _________ and this sibling tell each other things they don’t want other people to know? | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
| 45. How much do _________ and this sibling try to do things better than each other? | [ ]Hardly at all  
[ ]Not too much  
[ ]Somewhat  
[ ]Very much  
[ ]EXTREMELY MUCH |
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<th>Question</th>
<th>Options</th>
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<tr>
<td>46. How much does _________ think highly of this sibling?</td>
<td>[ ] Hardly at all</td>
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<td>[ ] Not too much</td>
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<td>[ ] Somewhat</td>
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<td>[ ] Very much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<td>47. How much does this sibling think highly of _________?</td>
<td>[ ] Hardly at all</td>
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<td>[ ] Not too much</td>
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<td>[ ] Very much</td>
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<td>[ ] EXTREMELY MUCH</td>
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<tr>
<td>48. How much do _________ and this sibling argue with each other?</td>
<td>[ ] Hardly at all</td>
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<td>[ ] Not too much</td>
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<td>[ ] Somewhat</td>
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APPENDIX L

FUNCTIONAL ASSESSMENT INTERVIEW (FAI)\(^1\)

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<tr>
<th>Person of concern</th>
<th>Age</th>
<th>Sex</th>
</tr>
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<tbody>
<tr>
<td>Date of interview</td>
<td>Interviewer</td>
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</table>

Respondents

A. DESCRIBE THE BEHAVIORS.

1. For each of the behaviors of concern, define the topography (how it is performed), frequency (how often it occurs per day, week, or month), duration (how long it lasts when it occurs), and intensity (how damaging or destructive the behaviors are when they occur).

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Topography</th>
<th>Frequency</th>
<th>Duration</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
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</table>

2. Which of the behaviors described above are likely to occur together in some way? Do they occur about the same time? In some kind of predictable sequence or ‘chain”? In response to the same type of situation?

B. DEFINE ECOLOGICAL EVENTS (SETTING EVENTS) THAT PREDICT OR SET UP THE PROBLEM BEHAVIORS.

1. What medications is the person taking (if any), and how do you believe these may affect his or her behavior?

2. What medical or physical conditions (if any) does the person experience that may affect his or her behavior (e.g., asthma, allergies, rashes, sinus infections, seizures, problems related to menstruation)?

3. Describe the sleep patterns of the individual and the extent to which these patterns may affect his or her behavior.

4. Describe the eating routines and diet of the person and the extent to which these may affect his or her behavior.

5a. Briefly list below the person's typical daily schedule of activities. (Check the boxes by those activities the person enjoys and those activities most associated with problems.)

<table>
<thead>
<tr>
<th>Time</th>
<th>Enjoys</th>
<th>Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>7:00</td>
<td>•</td>
<td>•</td>
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<td>8:00</td>
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<td>•</td>
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<td>9:00</td>
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<td>10:00</td>
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<tr>
<td>11:00</td>
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<td>12:00</td>
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<tr>
<td>1:00</td>
<td>•</td>
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</tbody>
</table>

5b. To what extent are the activities on the daily schedule predictable for the person, with regard to what will be happening, when it will occur, with whom, and for how long?

5c. To what extent does the person have the opportunity during the day to make choices about his or her activities and reinforcing events? (e.g., food, clothing, social companions, leisure activities)
6. How many other persons are typically around the individual at home, school, or work (including staff, classmates, and housemates)? Does the person typically seem bothered in situations that are more crowded and noisy?

7. What is the pattern of staffing support that the person receives in home, school, work, and other settings (e.g., 1:1, 2:1)? Do you believe that the number of staff, the training of staff, or their social interactions with the person affect the problem behaviors?

C. DEFINE SPECIFIC IMMEDIATE ANTECEDENT EVENTS THAT PREDICT WHEN THE BEHAVIORS ARE LIKELY AND NOT LIKELY TO OCCUR.

1. Times of Day: When are the behaviors most and least likely to happen?
   Most likely:

   Least likely:

2. Settings: Where are the behaviors most and least likely to happen?
   Most likely:

   Least likely:

3. People: With whom are the behaviors most and least likely to happen?
   Most likely:

   Least likely:
4. **Activity**: What activities are most and least likely to produce the behaviors?

   Most likely:

   Least likely:

5. Are there particular or idiosyncratic situations or events not listed above that sometimes seem to 'set off' the behaviors, such as particular demands, noises, lights, clothing?

6. What one thing could you do that would most likely make the undesirable behaviors occur?

7. Briefly describe how the person's behavior would be affected if:

   a. You asked him or her to perform a difficult task.

   b. You interrupted a desired activity, such as eating ice cream or watching TV.

   c. You unexpectedly changed his or her typical routine or schedule of activities.

   d. She or he wanted something but wasn't able to get it (e.g., a food item up on a shelf).

   e. You didn't pay attention to the person or left her or him alone for a while (e.g., 15 minutes).

1. Think of each of the behaviors listed in Section A, and try to identify the specific consequences or outcomes the person gets when the behaviors occur in different situations.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Particular situations (i.e., triggering events)</th>
<th>What exactly does he or she get?</th>
<th>What exactly does she or he avoid?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
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<td>b.</td>
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<td>h.</td>
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</tbody>
</table>

E. CONSIDER THE OVERALL EFFICIENCY OF THE PROBLEM BEHAVIORS. EFFICIENCY IS THE COMBINED RESULT OF (A) HOW MUCH PHYSICAL EFFORT IS REQUIRED, (B) HOW OFTEN THE BEHAVIOR IS PERFORMED BEFORE IT IS REWARDED, AND (C) HOW LONG THE PERSON MUST WAIT TO GET THE REWARD.
F. WHAT FUNCTIONAL ALTERNATIVE BEHAVIORS DOES THE PERSONAL READY KNOW HOW TO DO?

1. What socially appropriate behaviors or skills can the person already perform that may generate the same outcomes or reinforcers produced by the problem behaviors?

G. WHAT ARE THE PRIMARY WAYS THE PERSON COMMUNICATES WITH OTHER PEOPLE?

1. What are the general expressive communication strategies used by or available to the person? These might include vocal speech, signs/gestures, communication boards/books, or electronic devices. How consistently are the strategies used?

2. On the following chart, indicate the behaviors the person uses to achieve the communicative outcomes listed:

| Communicative Functions | Complex speech (sentences) | Multiple-word phrases | One-word utterances | Echolalia | Other vocalizing | Complex signing | Single signs | Pointing | Leasing | Shakes head | Grabs/reaches | Gives object | Increased movement | Moves close to you | Moves away or leaves | Fixed gaze | Facial expression | Aggression | Self-Injury | Other |
|-------------------------|---------------------------|-----------------------|--------------------|-----------|-----------------|----------------|--------------|----------|---------|-----------|--------------|---------------|---------------|-------------------|--------------------|------------------|----------|------------------|-----------|-----------|-------|
| Request attention       |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| Request help            |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| Request preferred       |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| food/objects/activities |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| Request break           |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| Show you something      |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| or some place           |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| Indicate physical pain  |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| (headache, illness)     |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| Indicate confusion      |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| or unhappiness          |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| Protest or reject a     |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
| situation or activity   |                           |                       |                    |           |                 |                |              |          |         |           |              |               |                |                   |                    |                  |          |                  |           |           |        |
3. With regard to the person's receptive communication, or ability to understand other persons...
   a. Does the person follow spoken requests or instructions? If so, approximately how many? (List if only a few.)
   b. Does the person respond to signed or gestural requests or instructions? If so, approximately how many? (List if only a few.)
   c. Is the person able to imitate if you provide physical models for various tasks or activities? (List if only a few.)
   d. How does the person typically indicate yes or no when asked if she or he wants something, wants to go somewhere, and so on?

H. WHAT ARE THINGS YOU SHOULD DO AND THINGS YOU SHOULD AVOID IN WORKING WITH AND SUPPORTING THIS PERSON?
   1. What things can you do to improve the likelihood that a teaching session or other activity will go well with this person?
   2. What things should you avoid that might interfere with or disrupt a teaching session or activity with this person?

I. WHAT ARE THE THINGS THE PERSON LIKES AND ARE REINFORCING FOR HIM OR HER?
   1. Food items:
   2. Toys and objects:
   3. Activities at home:
   4. Activities at school or in the community:
   5. Types of interaction
   6. Other:
J. WHAT DO YOU KNOW ABOUT THE HISTORY OF THE UNDESIRABLE BEHAVIORS, THE PROGRAMS
THAT HAVE BEEN ATTEMPTED TO DECREASE OR ELIMINATE THEM, AND THE EFFECTS
OF THOSE PROGRAMS?

<table>
<thead>
<tr>
<th>Behavior</th>
<th>How long has this been a problem?</th>
<th>Programs</th>
<th>Effects</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
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<td>6.</td>
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<td>7.</td>
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</table>
K. DEVELOP SUMMARY STATEMENTS FOR EACH MAJOR PREDICTOR AND/OR CONSEQUENCE.

<table>
<thead>
<tr>
<th>Setting Event</th>
<th>Immediate Antecedent (Predictor)</th>
<th>Problem Behavior</th>
<th>Maintaining Consequence</th>
</tr>
</thead>
<tbody>
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APPENDIX M

APPENDIX N

Family Ecology Assessment

Note: The purpose of this interview is to gain information about your family’s ecology that can help us develop a positive behaviour support (PBS) plan that is a good fit for your family; that is, a plan that you would find to be acceptable, feasible, and sustainable within the context of your family’s life. A well-designed PBS plan should (a) build on family and child strengths; (b) utilize, as may be relevant and helpful, informal and formal resources that you are currently using or that are available to you; (c) strengthen, as may be relevant and helpful, the social support that you receive in your role as a parent; (d) diminish stressors related to your child problem behaviour and contribute to the diminishment of other stressors in your life that may interfere with your implementation of a PBS plan; and (e) help you achieve your goals for your child and your family as a whole.

1. What would you characterize as the strengths of your family?

2. What might be some positive contributions that your child makes or has made to the family?

3. What formal or informal resources have you used to improve the situation (e.g., respite care; help with child-care and household chores from other family members, participation in a parent support group)?

4. What are you sources of social support (i.e., someone with whom you discuss problems and find solutions, someone with whom you do leisure activities; someone who validates your worth as a person)?

5. What are sources of stress in your family?
   a. What is the effect of your child’s problem behaviours on you as a parent?
   b. What is the effect of your child’s problem behaviours on the family as a whole?
   c. What are other sources of stress in the family that might affect your ability to implement a PBS plan?

6. What are your goals for your child? What are you goals for yourself as a parent? What are your goals for the family as a whole?

7. What are daily or weekly family routines/activities in the home or community that you would like to improve? How would you prioritize them?

APPENDIX O

Positive Behaviour Support Plan for Morning Self-Care Routine
Family Z, January 2014

Family Vision of a Successful Morning

The morning routine will occur in the bathroom. The focus child, older sibling, and mother will be participants. The routine will begin with the older sibling telling the focus child it is time to go to the bathroom. The focus child will be expected to complete a series of steps including putting on shoes, washing face, putting lotion on face, and combing hair. The older sister will provide assistance as necessary, however, the focus child must be actively participating in every aspect of these steps. The older sibling will then put a clip in the focus child’s hair and bring her to mom at the end of the routine. The focus child should keep the clip in her hair for at least five minutes. During this time, mom will engage in household tasks such as preparing lunch, etc. She may provide assistance or reinforcement to the older sibling at times. Once the older sibling brings the focus child to mom, mom will take over whatever morning tasks are remaining.

Functional Assessment Summary

A functional assessment helps us understand why a child engages in problem behaviour. The functional assessment gives us insight into four parts of the problem: (a) behaviours of concern; (b) contextual events that set the stage for problem behaviour; (c) immediate events that trigger problem behaviour; and (d) consequences that inadvertently reinforce problem behaviour (i.e., make it more likely that problem behaviour will occur again). A functional assessment also gives insight into strategies that promote positive and cooperative child behaviour. The insights gained from the functional assessment are summarized below.

Contextual Events that Set the Stage for Problem Behaviour

1) **Hunger**: If R has not eaten breakfast before engaging in the morning self-care routine, she is more likely to engage in problem behaviour in order to avoid demands so she can gain access to food.
2) **Insufficient sleep**: While R generally gets enough sleep each night, there are times when she has not had enough sleep. When this occurs, R is less willing to comply with demands and give up preferred items. R is more likely to engage in problem behaviours when she has had insufficient sleep in order to avoid demands and in order to maintain access to preferred items.
3) **Illness**: When R is feeling ill, she is less likely to comply with demands and give up preferred items. R is more likely to engage in problem behaviour when she is ill in order to avoid demands and in order to maintain access to preferred items.
4) **Playing with sticks**: A favourite activity of R’s is to touch, throw, and look at sticks. If she is playing with sticks before beginning the morning routine, R is more likely to engage in problem behaviour in order to maintain access to the sticks when someone tries to remove them and have her transition to the morning routine.
5) **Physical discomfort caused by hair clip put in hair**: R appears to find a hair clip in her hair physically uncomfortable and tries to remove it as soon as it is put in her hair.
Immediate Triggers for Problem Behaviour

Immediate triggers for problem behaviour are things that happen right before R engages in problem behaviour. These events tend to “trigger” problem behaviour. Triggers for problem behaviour during the morning routine include: (a) a request/preference is denied, not met, or delayed; (b) R is told to change or stop a preferred activity; (c) a preferred item is removed; (d) a demand is placed; or (e) R is expected to engage in a nonpreferred activity.

Consequences that inadvertently reinforce problem behaviour

Many scientific studies have shown that children with autism engage in problem behaviour because it helps them to achieve what they want or avoid what they don’t want. R has learned that problem behaviour during the morning routines helps her to (a) maintain/obtain access to preferred items; (b) delay the start of a non-preferred task or activity; and (c) escape from a non-preferred task or activity. When R engages in problem behaviour, the request or demand is often withdrawn on R is allowed continued access to preferred items/activities. While it is natural to stop making requests or allowed continued access to preferred items, this makes it more likely that R will continue to engage in problem behaviour to avoid completing the tasks during the morning self-care routine.

Strategies that work:

The functional assessment also revealed some strategies that may increase R’s cooperation during the morning self-care routine. R responds well to visual schedules that include a “first” component (i.e., task) and a “then” component (i.e., reinforcer). She also responds well to reminders that she will get her reinforcer. It is important to give R warnings before taking away items or asking her to engage in an unpreferred task.

Positive Behaviour Support Plan

The science of behaviour support has taught us that a good plan includes several strategies; one strategy alone is never effective. A good plan includes at least five types of strategies: (a) strategies that set the stage for success; (b) strategies that prevent problem behaviour from occurring; (c) strategies that teach the child new skills; (d) reinforcement for positive behaviour; and (e) consequences that ensure problem behaviour is not reinforced. The plan below is based on the results of the functional assessment, family ecology assessment, and sibling ecology assessment and include each of the previously mentioned types of strategies.

Strategies that set the stage for success

1) Ensure R has eaten breakfast before beginning routine: Make sure that R is given at least some of her breakfast before attempting to begin the morning self-care routine.
2) Increase reinforcement if R has had insufficient sleep or is at the very end of an illness: If R has had insufficient sleep or is at the very end of an illness, make sure to use
her most preferred items as reinforcers and to increase the frequency of praise and increase the enthusiasm with which you deliver praise.

3) **Do not complete routine if R is too ill to attend school or have ABA sessions:** If R is too ill to attend school or have ABA sessions, then it is not necessary for her to engage in the morning self-care routine. If there are any tasks that must be completed on those days, provide as much assistance as possible.

4) **Ensure R is not playing with sticks before routine:** In order to prevent R from having problem behaviour at the beginning of the routine when the sticks are taken away, make sure that she does not have access to the sticks before beginning the routine. The sticks should be put away somewhere she does not know and out of sight. Having R engage in activities that do not result in problem behaviours when taken away are fine for her to do before the morning routine (e.g., reading books, playing with toys, doing a quiet activity with a family member, etc.)

5) **Ensure hair clips are light and flat to minimize discomfort:** In order to minimize any discomfort that wearing a hair clip may cause for R, ensure that hair clips are as light and as flat as possible. Also ensure that it is placed in her hair in such a way as to not pull her hair.

**Preventative Strategies**

1) **Visual schedule of steps in routine to increase predictability:** The use of a visual schedule will help R to understand the steps of the routine. A picture of R engaging in each step of the routine will be placed on a board that will be present in the bathroom. The pictures will have velcro on the back and will be removed once a step is completed and placed in a “finished” pouch.

2) **Visual positive contingency:** A visual separate from the visual schedule will be created that includes a “first” section and a “then” section. Pictures of reinforcers and a picture representing the morning routine will be printed and laminated.

3) **Offer choices of reinforcers and routine materials:** When setting up the visual positive contingency, give R a range of reinforcers to choose from. Pictures of all available reinforcers will be placed on a “choice board” for R to choose from. Also ensure that R is able to make choices about the materials she will be using during the morning routine (e.g., choice of shoes, colours of face cloths, colour of combs, colours/styles of hair clips). Sibling will provide R with an array of choices when the opportunity arises and use the items that R chooses.

4) **Provide warnings before removing preferred item:** Before removing a preferred item from R (either before routine begins or during the routine if she gains access to a reinforcer), tell R that she can have the item for one more minute and set a timer for one minute. When one minute has passed, remove the item from R.

5) **Use positive contingency statements to increase motivation:** Throughout the morning self-care routine, use positive contingencies, presented both visually (using the “first-then” board) and verbally, to encourage R to cooperate. Positive contingencies can include telling R, “first, finish <current step> and then you can have <edible>,” or “first you get ready and then you get <reinforcer>.”

6) **Use safety signals to signal an upcoming break or task completion:** The use of safety signals (e.g., “finish washing your face and then you can take a break” or “finish one
more thing and then you will be all done”) will make expectations clear to R and let her know that she only needs to do one small thing before getting a break or being all done the routine.

7) **Bring preferred items to bathroom or have preferred items/activities set up in bathroom:** When R chooses a reinforcer at the beginning of the routine, make sure to show her you have the item and bring it to the washroom so she can have it immediately when finished the routine. In addition, bring other small reinforcers (e.g., edibles, toys) into the bathroom to use after she completes certain steps.

8) **Take R to use the washroom a few minutes before routine begins:** When researcher arrives, parents will take R to use the washroom before beginning the routine.

9) **Use behavioural momentum to help promote success with putting on shoes:** R has particular difficulty and displays more resistance with putting on shoes. Putting on shoes will be

**Teaching Strategies**

1) **Teach R to use visual schedule:**
   a. Set up/review steps
   b. Remove pictures for completed steps
   c. Place pictures of completed steps in finished pouch

Prompts can include physical prompts (i.e., providing physical assistance or hand over hand), gestural prompts (i.e., pointing or indicating), model prompts (i.e., doing the action for her to imitate), or verbal prompts.

2) **Teach R to use “first-then” board:** At the beginning of the routine, R will be shown the visual, and will place the picture representing the morning routine in the “first” section. R will then be given a choice of reinforcers and will place a picture of the chosen reinforcer in the “then” section. Once R completes each step on the visual schedule mentioned previously, she will then take the “first” picture off and place it in the finished pouch and then take the reinforcer picture off and give it to her mom or sister in exchange for the actual reinforcer.

Prompts can include physical prompts (i.e., providing physical assistance or hand over hand), gestural prompts (i.e., pointing or indicating), model prompts (i.e., doing the action for her to imitate), or verbal prompts.

3) **Teach R to ask appropriately for an item verbally, using pictures, or signs:** Provide proactive prompts (i.e., before problem behaviour occurs) for R to request appropriately for a preferred item or activity. R can request for items verbally, with pictures, or signs. Prompts can include physical prompts (i.e., providing physical assistance or hand over hand), gestural prompts (i.e., pointing or indicating), model prompts (i.e., doing the action for her to imitate), or verbal prompts.

4) **Teach R to ask appropriately for a break or one more minute with an item using a sign:** Provide proactive prompts (i.e., before problem behaviour occurs) for R to ask for a break or “one more minute” by prompting her to sign for a “break”. If she is currently doing a task, tell R she can have a one minute break and set the timer. If she currently has a preferred item, tell R she has one more minute with that item and set the timer. Prompts can include physical prompts (i.e., providing physical assistance or hand over hand), gestural prompts (i.e., pointing or indicating), model prompts (i.e., doing the action for her to imitate), or verbal prompts. There will be three break/“one more minute” cards and the sister will remove one
each time R asks for a break or one more minute. Once she has used all three, she will be told she can no longer have a break/one more minute.

5) **Teach R to engage in self-help skills**: Provide proactive prompts to assist R in completing the steps in the morning routine. Prompts can include physical prompts (i.e., providing physical assistance or hand over hand), gestural prompts (i.e., pointing or indicating), model prompts (i.e., doing the action for her to imitate), or verbal prompts.

6) **Pair hair clip in hair with preferred edibles and toys**: Outside of the routine, I (the researcher) will begin process of pairing the hair clip in the hair with preferred edibles and toys. Pairing will take place in front of a mirror in the bathroom. I will place the clip in R’s hair and provide her with preferred edibles and toys. I will also provide praise in the form of, “Great job keeping the clip in your hair”, “I like how you are not touching your clip”, etc. As long as she has the clip in her hair, she can have a toy to play with. When the clip is in her hair, she can have a small edible approximately every 5-10 seconds, gradually increasing the time in between treats by approximately 5 seconds every minute she keeps the clip in. I will gently block R’s hands from taking the clip out. If R gets the clip out, the toy she currently has will be temporarily removed, the clip will be placed back in the hair, and I will wait at least 10 seconds before providing reinforcement (toy and/or edible). Once I am seeing success, I will train R’s sibling to follow the same procedures as described above. Once there is success in this situation, we will try these procedures within the context of the routine. Finally, once R is able to keep the clip in her hair during the routine, I will train mom to show R the clip in her hair with a small handheld mirror and provide praise and toys/food items for keeping the clip in.

**Consequence Strategies**

1) **Provide positive reinforcement contingent on cooperative behaviour**: Provide R with verbal praise and access to preferred items, activities, and edibles contingent on:
   a. Giving up preferred items when asked;
   b. Transitioning to next activity;
   c. Participating in self-help skills;
   d. Accepting help from sister; and
   e. Wearing clip in hair

2) **Provide a 1 minute break or allow 1 more minute with preferred item contingent on appropriate requesting**: Provide R with a 1 minute break when she appropriately requests for a break. Provide R with 1 more minute with an item when she appropriately requests for it.

3) **Actively ignore and redirect minor problem behaviour**: When R engages in minor problem behaviour (i.e., non-compliance, taking her hair clip out, whining, grabbing, or physical resistance), actively ignore the problem behaviour (i.e., continue what you are doing without reacting to behaviour) and redirect R back to the task. Use a positive contingency statement to re-establish cooperation.

4) **Minimize reinforcement for major problem behaviour**: If R is engaging in major problem behaviour (i.e., running away, crying, flopping, destruction to items, and physical aggression) to gain or maintain access to a preferred item/activity, do not allow her access to the item/activity. If R is engaging in problem behaviour to escape a demand or non-preferred activity, do not allow R to escape completing the morning routine. If at all possible, keep R in the bathroom, even if you are temporarily unable to continue
working on a step and block all of her attempts to engage in other activities. If she escapes the bathroom, request that she returns and do not allow her to do anything else. When she returns, re-initiate the routine and use positive contingency statements or safety signals to re-establish cooperation.
APPENDIX P

Implementation Support Plan for Morning Self-Care Routine
Family Z
January, 2014

Introduction and Rationale

The purpose of this plan is to help you implement the PBS plan created for R. This plan will describe the support activities, roles and responsibilities, and a timeline so we can effectively and efficiently put the PBS plan into place.

Support Activities

1. *Purchase materials and prepare visual supports.*
   a) Researcher will purchase a variety of toys and edibles.
   b) Researcher will purchase a variety of styles and colours of hair clips.
   c) Mother will find and/or researcher will purchase a variety of colours of face cloths and combs for R to choose from.
   d) Mother will find or researcher will purchase a timer to assist timing breaks and access to preferred items.
   e) Researcher and mother will take pictures for the visual sequence, “first-then board” and “choice board”.
   f) Researcher will create a board to display the visual sequence of steps in the routine.
   g) Researcher will create a choice board (to be used with the first-then board).
   h) Researcher will create a “first-then” board
   i) Researcher will create 3 “break cards” and 3 “one more minute cards”

2. *Training to family.*
   a) At first, the researcher will work intensively with R 2-3 times per week to increase success during the routine. A stimulus fading procedure to transfer the routine to S will consist of the following steps:
      a. Vicky completes routine with R, while S delivers praise and tangible reinforcers during the routine and once routine is completed.
      b. Vicky completes most of the routine with R, while S delivers praise and tangible reinforcers during, then completes the last step in the routine, and then delivers the last reinforcer once the routine is completed.
      c. S will gradually complete more and more steps of the routine until she is completing the entire routine herself.
b) Throughout the stimulus fading procedure, the researcher will be providing training and support to R’s sibling, using strategies such as modeling, role play, and feedback to help R’s sibling effectively implement all aspects of the plan.

c) Once the PBS plan is well-established, additional training and support will be provided as needed to R’s sibling to continue implementing the plan with fidelity. Support will also be provided to R’s mother on how to effectively support her daughter when implementing the PBS plan.

3. Implementation checklist.
   a) Please see attached “Implementation Checklist”. Using this checklist as a self-monitoring tool will help promote implementation fidelity and maintenance over time. R’s sibling will be responsible for completing the checklist each time the morning routine is completed until the plan has been fully implemented for two weeks. She will then be responsible for completing the checklist once a week.
   b) The researcher will review the checklist with R’s sibling during training sessions to ensure it is being used properly.
   c) The checklist will be reviewed after two weeks to evaluate plan effectiveness, discuss progress and identify if any strategies need to be reviewed for modification or additional training.

Roles and Responsibilities

1. Preparing materials: R’s mother and researcher
2. Training: Researcher
3. Plan implementation and implementation checklist: R’s sibling

Timeline

1. Preparing materials: Complete by January 20, 2014
2. Training: Core training complete by May 15, 2014
APPENDIX Q

Implementation Checklist
Morning Self-Care Routine – Sibling
January, 2014

Date:________________________________________ Name:________________________________________

Instructions: This implementation checklist is a tool designed to help you implement PBS plan strategies, monitor R’s problem behaviour, and record how you feel about the plan. Using this checklist as a self-monitoring tool will help promote implementation fidelity and maintenance over time. The researcher will review the checklist with R’s sibling during training sessions to ensure it is being used properly. The checklist will be reviewed after two weeks to evaluate plan effectiveness, discuss progress and identify if any strategies need to be reviewed for modification or additional training.

In Part A, you will record how fully each strategy is being implemented, from 1 (not in place) to 5 (fully in place). Please note these are brief descriptions of the strategies we will be using; for detailed instructions on each strategy, please see the PBS Plan. In Part B, you will record the number of problem behaviours that occurred during the morning routine, from 0 to 5 or more. In Part C, you will record your response to each statement about the plan, from 1 (completely disagree) to 5 (completely agree).

Part A: PBS Plan Strategies

Lifestyle/Ecological Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Not in place</th>
<th>Fully in place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase reinforcement if R has had a poor sleep or is at the very end of an illness</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2. Hair clips are light and flat to minimize discomfort</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Preventive Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Not in place</th>
<th>Fully in place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Show R her “first-then board”. Point to the picture of getting ready in the “first” section and tell her, “first we get ready in the bathroom, and then you can have ____”.</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2. The visual sequence of steps in the routine is in the bathroom.</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>3. Offer R choices during the routine (e.g., choice board, face cloths, combs, hairclips)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>4. Before removing a preferred item, tell R, “you have one more minute to play with ____ and then it is time to get ready.” Set the timer for one minute. When one minute has passed, remove the item.</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
5. Throughout the routine, use positive contingencies, presented both visually (using the “first-then” board) and verbally, to encourage R to cooperate. E.g., “first, finish <current step> and then you can have <edible>,” or “first you get ready and then you get <reinforcer>”.

6. Use safety signals to let R know that she only needs to do one small thing before getting a break or being done (e.g., “finish washing your face and then you can take a break” or “finish one more thing and then you will be all done”).

7. Bring preferred items to bathroom or have preferred items/activities set up in bathroom

8. Have R put on shoes last, right before bringing her to mom.

Teaching Strategies

1. For each step R needs to complete, point to picture of the next task on visual sequence, and after it is completed, prompt R to take picture off and put in pocket.

2. At beginning of routine, show R her choice board and have pick 1 or 2 items and put them in “then” section of “first-then board”. When routine is completed, prompt R to give you picture of reinforcer.

3. Prompt R to sign for a break.


5. When R has a clip in her hair, show it to her in the mirror and give her praise and edibles.

Effective Consequence Strategies

1. Provide verbal praise and preferred toys/food when R cooperatively gives up item, transitions to next task, cooperatively completes steps in routine, accepts help from sister, and wears clip in hair

2. Provide a 1 minute break when R signs

3. Allow 1 more minute with preferred item when R signs

4. Actively ignore minor problem behaviour (i.e., non-compliance, taking out hair clip, whining, grabbing, and physically resisting) and redirect to task

5. Do not allow R access to the item or to escape from self-help tasks following major problem behaviour (i.e., running away, crying, flopping, destruction toward objects, physical aggression)
Part B: Problem Behaviours

1. R doesn’t do what you ask her.  
   0 1 2 3 4 5+
2. R takes out her hair clip.  
   0 1 2 3 4 5+
3. R whines.  
   0 1 2 3 4 5+
4. R grabs something from you.  
   0 1 2 3 4 5+
5. R physically resists your prompts/help.  
   0 1 2 3 4 5+
6. R runs/walks away from you.  
   0 1 2 3 4 5+
7. R screams.  
   0 1 2 3 4 5+
8. R cries.  
   0 1 2 3 4 5+
9. R flops on the ground.  
   0 1 2 3 4 5+
10. R throws, kicks, hits, or pushes away items.  
    0 1 2 3 4 5+
11. R kicks, hits, or pushes you.  
    0 1 2 3 4 5+

Part C: Social Validity

1. PBS plan goals are important and acceptable.  
   1 2 3 4 5
2. PBS plan strategies are useful and effective.  
   1 2 3 4 5
3. PBS plan strategies are difficult to use.  
   1 2 3 4 5
4. R’s behaviour has improved at home.  
   1 2 3 4 5
5. R is successfully engaging in morning self-care activities.  
   1 2 3 4 5
Implementation Checklist  
Morning Self-Care Routine – Mother  
January, 2014

Date:________________________    Name:__________________________________________

Instructions: This implementation checklist is a tool designed to help you implement PBS plan strategies, monitor R’s problem behaviour, and record how you feel about the plan. Using this checklist as a self-monitoring tool will help promote implementation fidelity and maintenance over time. The researcher will review the checklist with R’s sibling during training sessions to ensure it is being used properly. The checklist will be reviewed after two weeks to evaluate plan effectiveness, discuss progress and identify if any strategies need to be reviewed for modification or additional training.

In Part A, you will record how fully each strategy is being implemented, from 1 (not in place) to 5 (fully in place). Please note these are brief descriptions of the strategies we will be using; for detailed instructions on each strategy, please see the PBS Plan. In Part B, you will record the number of problem behaviours that occurred during the morning routine, from 0 to 5 or more. In Part C, you will record your response to each statement about the plan, from 1 (completely disagree) to 5 (completely agree).

Part A: PBS Plan Strategies

Lifestyle/Ecological Strategies

<table>
<thead>
<tr>
<th></th>
<th>Not in place</th>
<th>Fully in place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. R has eaten some breakfast before beginning routine</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2. Do not complete routine if R is too ill to attend school or have sessions</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3. R is not playing with sticks before routine</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

Preventive Strategies

1. Take R to bathroom a few minutes before beginning routine. | 1 2 3 4 5 |

Part C: Social Validity

<table>
<thead>
<tr>
<th></th>
<th>Completely disagree</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PBS plan goals are important and acceptable.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2. PBS plan strategies are useful and effective.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3. PBS plan strategies are difficult to use.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>4. R’s behaviour has improved at home.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>5. R is successfully engaging in morning self-care activities.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX R

Stimulus Response Training Data Form\(^1\)

<table>
<thead>
<tr>
<th>Stimulus</th>
<th>Response</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoes on</td>
<td>Leave bathroom and go to mom</td>
<td>16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16</td>
</tr>
<tr>
<td>Shoes close by on floor</td>
<td>Put on shoes</td>
<td>15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15</td>
</tr>
<tr>
<td>Clip in hair</td>
<td>Keeps hands away from clip</td>
<td>14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14</td>
</tr>
<tr>
<td>Sister presents clip to hair</td>
<td>Keep hands down while sister puts clip in hair</td>
<td>13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13</td>
</tr>
<tr>
<td>Hair combed/brushed</td>
<td>Put down comb/brush</td>
<td>12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12</td>
</tr>
<tr>
<td>Comb/brush on counter</td>
<td>Pick up comb/brush</td>
<td>10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>Lotion in hand</td>
<td>Rub lotion on face</td>
<td>9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9</td>
</tr>
<tr>
<td>Hand lotion</td>
<td>Pump lotion into hand (once)</td>
<td>8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8</td>
</tr>
<tr>
<td>Face wet</td>
<td>Put down wash cloth on counter</td>
<td>7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7</td>
</tr>
<tr>
<td>Tap off, cloth in hand, face in mirror</td>
<td>Wash face</td>
<td>6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6</td>
</tr>
<tr>
<td>Wet cloth</td>
<td>Turn off tap</td>
<td>5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5</td>
</tr>
<tr>
<td>Water running</td>
<td>Wet cloth</td>
<td>4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4</td>
</tr>
<tr>
<td>Wash cloth in hand; tap</td>
<td>Turn on tap</td>
<td>3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3</td>
</tr>
<tr>
<td>Wash cloth on sink or rack</td>
<td>Pick up wash cloth</td>
<td>2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</td>
</tr>
<tr>
<td>“Time to get ready”</td>
<td>Go to washroom</td>
<td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td>
</tr>
</tbody>
</table>


/ = Independent

☐ = Needs verbal or gestural prompt

X = Needs physical assistance