FAMILY CENTRED POSITIVE BEHAVIOUR SUPPORT DELIVERED BY
TELEPRACTICE: A SINGLE CASE ANALYSIS WITH A JAPANESE PARENT OF A
CHILD WITH AUTISM

by

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Abstract

Although research has documented the effectiveness of family-centred positive behaviour support (FCPBS; Clarke et al., 1999; Lucyshyn et al., 2007), only a handful of studies have examined FCPBS implemented by families of diverse cultural backgrounds (Cheremshynski, Lucyshyn, & Olson, 2013; Lucyshyn et al., 2015). In BC and Japan families of children with autism living far from quality behaviour consultation services from qualified professionals are at risk of not receiving the supports they need to maximize their child’s development (Behavior Analyst Certification Board, 2016). Given this, there is a merit in augmenting FCPBS with telepractice for families living far from urban areas where most qualified professional reside, including Japanese families in BC and Japan. This study aimed to examine whether a functional relation could be demonstrated between FCPBS delivered to a Japanese mother of a child with autism via telepractice, and improvements in the child’s behaviour and participation in a valued but problematic home routine. The setting selected and defined in collaboration with the family was a morning routine in which the mother assisted the child in getting ready for school. Four dependent variables were measured: (a) child problem behaviour; (b) child positive participation in the routine; (c) goodness of fit; and (d) social validity. Although an experimental single case withdrawal design was planned, due to time constraints, an A-B empirical case study design was implemented. Results documented a decrease in problem behaviour and an increase in positive engagement in the morning routine from baseline to intervention phases. Goodness of fit ratings by both parents indicated that they regarded the PBS plan as good fit with their family. Social validity ratings indicated that the parents viewed the goal, procedures, and outcomes of the telepractice approach to FCPBS as important and acceptable. Results are discussed in terms of relation to the literature, unique contributions, implications, limitations and future research.
Lay Summary

Children with autism often engage in problem behaviour, negatively affecting the family’s quality of life. For people living in areas without qualified professionals, obtaining effective treatment can be challenging; therefore, provision of family centered positive behaviour support (FCPBS) services via telepractice may be warranted. In this study, a Japanese mother of a child with autism implemented a FCPBS plan in a morning routine with coaching from an interventionist via telepractice. The aims were to reduce child problem behaviour and increase participation in the routine. An empirical case study design documented a decrease in child problem behaviour and an increase in positive engagement in the routine when comparing baseline to intervention conditions. Results provide preliminary and modest evidence that the telepractice approach to PBS services was acceptable and feasible to the family and was associated with improvements in child behaviour in a valued home routine.
Preface

This thesis is the original, unpublished work by the author, Serina Ando. Chapter 2, the research methodology section, was approved by the University of British Columbia’s Research Ethics Board (Certificate number H17-02778). The majority of the procedures described in Chapter 2 was led by Serina Ando under the supervision of Dr. Joseph Lucyshyn, research supervisor, who was present in approximately 30% of tele-coaching sessions to provide mentorship in the delivery of behavioural parent training to the family. Dr. Ishu Ishiyama provided monthly clinical supervision during the intervention phase. Yoko Masuda assisted as an interobserver agreement coder. The manuscript was written by Serina Ando with input and editorial support from Dr. Lucyshyn.
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Chapter 1: Introduction

Autism spectrum disorder (ASD) is a lifelong developmental disorder characterized by impairment in social and communication skills as well as restricted and/or repetitive patterns of behaviour (American Psychiatric Association, 2013). Although challenging behaviour is not the core feature of ASD, it is commonly exhibited among children with ASD (Horner, Carr, Strain, Todd, & Reed, 2002) and has a negative impact on the daily lives of this population (Sprague & Rian, 1993). Challenging behaviour of individuals also can affect their family’s quality of life. For instance, associations between maternal stress and child problem behaviours have been documented (Hastings et al., 2005; Lecavalier, Leone, & Wiltz, 2006), and disruption of family routines due to the child’s challenging behaviour has been observed (Lucyshyn et al., 2004).

The negative impact on individuals with challenging behaviour and their families highlights the importance of the survivability of behaviour interventions in natural settings (Baer, 1986, as cited in Lucyshyn et al., 2015, p. 3527). Survivability in this context refers to interventions that are “acceptable, effective, sustainable, and durable” (Lucyshyn et al., 2009, p. 75) for target individuals and families. Family centred positive behaviour support (FCPBS) has been proposed as an approach to promote survivable behaviour interventions (Lucyshyn et al., 2009; Lucyshyn et al., 2015).

1.1 Family Centred Positive Behaviour Support (FCPBS)

FCPBS is a tertiary approach to behavior support that is based on an ecological unit of analysis. It has three theoretical frameworks as the foundation of the approach: behaviour theory, coercion theory, and ecocultural theory. Behaviour theory emphasizes the functions of behaviour and the manipulation of environmental events to increase appropriate behaviour and ameliorate the problem behaviour of individuals (Cooper, Heron, & Heward, 2007). The PBS framework
has its roots in behaviour theory and attempts to improve an individual’s quality of life (Carr et al., 2002) through the use of primarily preventive, teaching and positive reinforcement strategies (Borgmeier & Rodriguez, 2015). The PBS framework enables “the creation of a behaviour support plan that is a ‘good fit’ for the family and the environment in which the intervention plan [is] to be implemented” (Fettig, Schultz, & Sreckovic, 2015, p. 2). Studies employing the PBS framework have demonstrated its acceptability and effectiveness in decreasing problem behaviour and increasing adaptive behaviour when implemented by the child’s parent(s) (e.g., Cheremshynski, Lucyshyn, & Olson, 2013; Clarke, Dunlap, & Vaughn, 1999; Buschbacher, Fox, & Clarke, 2004).

Coercion theory, which focuses on the reciprocal reinforcement of child problem behaviour and ineffective parenting practices within parent-child interaction (Patterson, 1982), is the second theoretical framework contributing to the FCPBS approach. Lucyshyn et al. (2004) examined coercive processes operating in parent-child interactions by observing 10 families of children with developmental disabilities. Their findings identified two types of coercive processes that were commonly operating in various family routines: four-step escape-driven coercive processes (i.e., parent demand → child problem behavior → parent reduces or withdraws demand → child reduces or terminates problem behaviour) and four-step attention-driven coercive processes (i.e., parent busy → child problem behaviour → parent attention → child reduces or terminates problem behaviour). Over time, these coercive processes become automatic and highly resistant to change (Dumas, 2005). Therefore, interventions that aim to ameliorate coercive processes and build constructive processes of parent-child interaction (e.g., parent demand → child compliance → parent positive attention → child task engagement or
neutral behaviour) are viewed as key to the design of survivable behavioural interventions in family contexts (Lucyshyn et al., 2015).

Ecocultural theory regards activity settings (i.e., daily and weekly routines of family life) as reflections of the family’s ecological and cultural backgrounds (Bernheimer, Gallimore, & Weisner, 1990). This theory suggests that parent-child interaction within activity settings plays an important role in the development of a child, and provides an excellent context for promoting change in child behaviour and parent behaviour (Lucyshyn et al. 2009). Integrating these three theories, the FCPBS approach aims to improve child behaviour and parent-child interaction in the context of family routines in the home and community by empowering parents to implement function-based positive behaviour support strategies.

1.2 Culturally Responsive FCPBS

As daily routines are affected by a family’s cultural values and expectations, the feasibility of a behaviour plan’s implementation also depends on family members’ cultural backgrounds (Chen, Downing, & Peckham-Hardin, 2002). Designing a support plan that has goodness of fit (i.e., the extent to which a behaviour support plan is congruent with child, implementer and setting characteristics) for this population is critical for the successful implementation of a behaviour support plan (Carr et al., 2002). In Canada, 1 in 5 individuals is foreign-born (Statistics Canada, 2013), and about one-eighth of U.S. citizens are born outside the country (United States Census Bureau, 2013). Despite these facts, little research has included families of diverse cultural backgrounds as implementers of family centred PBS plans.

Cheremshynski et al. (2013) conducted the first FCPBS study that focused on a family of a diverse cultural background. This multimethod study employed a single case withdrawal design and a qualitative case study to examine the effectiveness of the approach, and the
interventionist’s and mother’s perspectives on the delivery of a PBS approach designed to be culturally responsive. The interventionist taught a Japanese mother of a child with ASD in-vivo to implement a PBS plan designed to decrease the child’s problem behaviour and improve his participation in a dinner routine. The interventionist conducted a functional assessment and used a cultural assessment guide developed by Chen et al. (2002) to design a multicomponent plan that was technically sound and culturally appropriate. Quantitative results documented a functional relation between the mother’s implementation of the PBS plan and improvements in child behaviour and participation in the dinner routine. Qualitative results yielded three themes related to the delivery of culturally responsive PBS: (a) build and maintain rapport informed by cultural knowledge; (b) obtain guidance from a cultural interpreter; and (c) recognize and accommodate a cross-cultural belief system. Since the interventionist was not familiar with Japanese culture at the time of the study, guidance from a cultural interpreter that included readings about Japanese culture assisted her in adapting behaviour support strategies so that they were culturally acceptable to the mother.

1.3 Japanese Culture

Provision of FCPBS to a Japanese population requires several considerations. One of the biggest challenges for professionals when working with Japanese families is establishment of rapport. Social harmony is the paramount of relationships in Japan (Davies & Ikeno, 2002; Rothbaum et al., 2000); therefore, one’s opinions and emotions may be suppressed if expressing them could harm relationships. This notion is characterized by the phrases honne and tatemae. Honne refers to one’s true feeling and opinions, whereas tatemae refers to what one displays in public. Japanese use the two depending on the situation to avoid tension and conflict in relationships (Davies & Ikeno, 2002). This suggests the need for professionals to be open to the
opinions of Japanese families and make them feel assured that sharing their true feelings and thoughts (i.e., honne) will not hinder the professional-client relationship.

Japanese use ambiguity to communicate their feelings and thoughts to maintain harmonious relationships (Davies & Ikeno, 2002). In fact, Many Japanese are reluctant to openly express their disagreement and opinions, and they expect others to read between the lines (Imai, 1986 as cited in Kameda, 2001). Collaboration between parents and professionals and the design of FCPBS plans with good contextual fit involve discussion between parties about what may or may not work in a behaviour support plan implemented by family members. Professionals serving the Japanese population need to be careful with the way questions are phrased and pay close attention to the way questions are answered. Reading literature about ways Japanese people communicate using nonverbal language will be necessary if professionals are not familiar with the culture.

When professionals work with Japanese mothers, cultural differences in terms of parenting need to be considered. For instance, a child’s dependence on his or her mother to seek indulgence is accepted and expected by many Japanese mothers (Lebra, 1985; Holloway, 2010). In addition, child problem behaviour is more tolerated by Japanese mothers because such behaviour is considered to be age-appropriate during preschool years (Tobin, Wu & Davidson, 1989). When children misbehave, Japanese mothers tend to use indirect methods to deal with the behaviour (e.g., reasoning, guilt induction, encouraging child to take the perspective of others; Zahn-Waxler, Friedman, Cole, Mizuta, & Himura, 1996) or give in to the child (Davies & Ikeno, 2002).

Consideration of these cultural differences provides greater understanding of how services should be provided to this population of families and what the focus of training should
be. In the study by Cheremshynski et al. (2013), an issue faced by the interventionist was the mother’s expressed difficulty in praising her son despite her desire to do so. Use of praise is frowned upon in Japan because, “praising one’s child is viewed as … a sign of vanity” (McCarty, 1997, as cited in Cheremshynski et al., 2013, p. 250). Given this cultural insight, but also recognizing the importance of praise to reinforce child appropriate behaviour, the interventionist in dialogue with the mother was able to identify a culturally acceptable method of contingent reinforcement; that is, the mother’s use of physical forms of praise. This accommodation resulted in an increase in the mother’s use of praise with her child and the child’s subsequent successful completion of the steps in a dinner routine.

1.4 Empirical Support for Using Telepractice

In Canada, over 100,000 people are Japanese, and although a majority of them live in urban areas, many of them live in the countryside (Statistics Canada, 2017) where behavioural support services may not be readily available. Families with an individual with ASD in Japan also are faced with a similar issue. For example, every 3.74 in 100 individuals in Yokohama in Japan is estimated to have a diagnosis of ASD in 2012 (Imai & Ito, 2012). This number is an 18.7% increase compared to 1996 (Honda, Shimizu, Misumi, Niimi, & Ohashi, 1996). However, only a small number of trained professionals are available to provide behaviour support services in Japan, and most of these certified behaviour analysts provide services in urban areas of Japan (Behavior Analyst Certification Board, 2016). As a result, families with an individual diagnosed with ASD living in rural areas are often forced to travel far to obtain behavioural support services, pay the extra cost for professionals traveling to their homes, and/or take care of the individual by themselves without sufficient support from professionals. These facts suggest merit
in augmenting FCPBS with efficient methods of providing services for people living in rural areas.

Telepractice is an easily accessible method to increase the accessibility of behaviour support services. It involves the use of telecommunication technology to provide services to individuals in distant locations. Professionals have used different descriptors to refer to this activity such as videoconferencing, telehealth, and teleconferencing. For the purpose of this paper, I will use the term telepractice.

Literature to date has documented the utility of telepractice to support families or practitioners of children with ASD. Several studies have documented the effectiveness of telepractice to remotely support parents and teachers to implement a functional analysis (FA). Machalicek et al. (2010) conducted two multiple baseline designs across six teacher-student dyads to examine the effect of performance feedback delivered by way of telepractice on teacher’s ability to conduct FAs with students with autism in a private school setting. During baseline conditions, teachers were given a written description of FA procedures while during intervention they were provided with real time performance feedback during the FAs via telepractice. Results documented a functional relation between performance feedback via telepractice and significant improvements in implementation fidelity by teachers.

In a study by Wacker et al. (2013), behaviour consultants an average of 357 km away taught parents of 20 young children with ASD to conduct FAs via weekly telepractice consultations based in regional clinics near the families’ homes. The consultants also trained on-site parent assistants to provide support to parents during the FAs. A multi-element single case design with each family identified the functions of problem behaviour for 18 of 20 children.
These results showed that parents are able to implement FAs effectively via telepractice-based consultation with the help of an on-site assistant.

Several other studies suggest that teachers or parents can be trained via telepractice to use functional communication training. Gibson, Pennington, Stenhoff, and Hopper (2010) used telepractice to train a teacher and teaching assistant to implement functional communication training (FCT) for young child with ASD in a preschool setting. A behavioural consultant conducted functional assessment training during an on-site visit to the preschool and used the results to design the FCT intervention. The consultant, located 1.5 hrs. away from the child’s classroom, then provided daily telepractice with the child’s teacher and teaching assistant, which consisted of modeling, role-play, and feedback. An A-B-A-B single case design documented a functional relation between FCT and a significant reduction in elopement of the preschool student with ASD. In addition, the teacher and teacher assistant reported high ratings of the acceptability of consultation procedures.

In a study by Suess et al. (2014), a behaviour consultant in a hospital setting trained parents of three children with autism to conduct FAs and FCT in their homes. The FA training procedures were similar to those used by Wacker et al. (2013), in which, within a multielement design, a trainer trained parents to implement FAs with the help of an on-site assistant. After the functions of problem behaviour were documented, a second multielement design was conducted across two alternating conditions: (a) weekly 1 hr. telepractice coaching sessions with the parents to implement FCT within a home-based work activity; and (b) weekly sessions in which the parents independently implemented FCT within the work activity. FA results documented the functions of problem behaviour. Results of the second multielement design showed little to no differentiation in the coaching sessions compared to the independent sessions, indicating that
coaching was effective in building the capacity of the parents to independently implement FCT within the home-based work activity.

More recently, Simacek, Dimian, and McComas (2017) used telepractice to teach FA and FCT to parents of three 3.5- to 4-year old children with neurodevelopmental disorders, including ASD, while the participants were in different locations. They used a combination of multiple element design (for FA), multiple probe design and ABAB design (for FCT). Telepractice steps involved a coach: (a) conducting a functional assessment interview over the phone; (b) providing instructions via telepractice for parents to conduct 5 minutes of structured descriptive assessment (Anderson & Long, 2002) for each antecedent condition; (c) providing verbal instructions to conduct the FA and live-feedback while the parents implemented FA sessions; and (d) teaching parents to use FCT. The main components of FCT training sessions were: (a) provision of a manual prior to the initial session; and (b) instruction, modeling, and feedback to use prompts. The study documented a decrease in targeted idiosyncratic responses and an increase in functional communication.

Lindgren et al. (2016) provided evidence of the financial benefit to families using telepractice. They compared child outcomes, treatment acceptability, and costs when behaviour consultants provided weekly coaching sessions in FA and FCT to parents in one of three conditions: (a) in vivo; (b) home-based telepractice; or (c) clinic-based telepractice. One hundred and seven parents of children with autism or other developmental disabilities were enrolled between 1996 and 2009 in one of the three conditions. Results showed no significant between group differences in improvements in child behaviour, parent ratings of treatment acceptability, and number of weekly sessions. However, the costs associated with home telepractice were the
least expensive among the three groups, and the two telehealth conditions were significantly less costly than the *in vivo* condition.

One limitation of these studies is that all focused on the use of FCT as the sole intervention strategy. FCT is an effective strategy to teach children to use language to obtain a reinforcer that is maintaining problem behaviour (Hagopian, Fisher, Sullivan, Acquisto, & LeBlanc, 1998); therefore, it does not necessarily teach children to engage in desirable behaviour. In addition, when problem behaviour occurs, implementers of a support plan who are only familiar with FCT may not know how to respond and thus inadvertently strengthen problem behaviour through intermittent reinforcement. Another limitation of FCT is the possibility of excessive requests by children when their requests cannot be honoured (Betz, Fisher, Roane, Mintz, & Owen, 2013). These limitations suggest a need for practitioners or parents of children with a disability to learn function-based multicomponent behaviour support plans that teach desired behaviour in addition to FCT, and that prevent and weaken problem behaviour.

Fettig, Barton, Carter, and Eisenhower (2016) trained an early intervention (EI) provider to implement a function-based, multicomponent behaviour support plan (BSP) designed to reduce the problem behaviour of a 30-month-old girl with ASD via telepractice. The activity setting targeted was the EI provider’s home visits. Fettig et al. used a model of telepractice that did not require real-time monitoring of the trainee, potentially enabling provision of services to people living in different time zones. In my study, I adapted the telepractice procedures used by Fettig et al. Accordingly, a detailed description of the study is presented below.

Fettig et al. (2016) used a multiple baseline design across behavior support plan components (i.e., prevention strategies, teaching strategies, and consequence strategies) to compare the EI provider’s fidelity of implementation of BSP across four phases: (a) baseline; (b)
training-only, in which the EI provider received the BSP and a self-monitoring checklist; (c) e-coaching, in which weekly telepractice coaching sessions were delivered; and (d) maintenance, in which the durability of outcomes was assessed. The trainer reviewed videos of the EI provider’s implementation of the BSP during the provider’s previous home visit to inform e-coaching training, and introduced target strategies (i.e., preventative strategies, teaching strategies, and consequence strategies) in lagged fashion as the EI provider became fluent in their implementation. The maintenance phase was introduced immediately after the e-coaching phase. During this final phase, no coaching sessions were provided while the provider implemented the plan.

Results documented a functional relation between e-coaching and the EI provider’s implementation fidelity of the function-based BSP. Implementation fidelity remained high even after e-coaching support was withdrawn. In addition, a low level of child challenging behaviour was observed during training-only, e-coaching, and maintenance phases. These results highlight the importance of providing performance feedback (Machalicek et al., 2010) and suggest the utility of a telepractice model in which delayed performance feedback is provided by a trainer who is not physically present in the performance setting.

1.5 Research Questions

The current study aimed to investigate the effectiveness of telepractice to train a Japanese mother of a child with ASD to implement a function-based behaviour support plan using the FCPBS approach. Adapting the procedures employed by Fettig et al. (2016), I planned to examine whether a functional relation existed between FCPBS delivered to the Japanese mother of a child with ASD via telepractice and a decrease in challenging behavior of the child and an increase in child participation in a morning routine in the family’s home. In addition, I examined
the child’s parents’ view of the goodness of fit of the PBS plan and the social validity of the telepractice FCPBS approach.

Chapter 2: Research Methodology

2.1 Participants

One family living 2 hrs. away from Vancouver, BC by public transit and 0.75 hrs. away by car participated in the study. There were four members in the family (all names are pseudonyms): mother Sayaka (age 40), father Mark (age 45), focus child Shun (age 5), and younger sister Rika (age 2). For Sayaka’s family to be enrolled in the study, the family needed to meet the following inclusion criteria: (a) focus child between 3 and 6 years old at start of the study; (b) child has a formal diagnosis of autism and no co-diagnosis of another disability; (c) child engages in observable mild to moderate problem behaviour in a valued target routine at home; (d) at least one parent speaks and reads Japanese and English; (e) at least one parent is the primary caregiver of the child; (f) parents agree to receive training and support by way of telepractice via the UBC-approved telecommunication system (i.e., Skype for Business); (g) parents agree to video record observations in the target routine, and to share videos by way of the UBC-approved file sharing system (i.e., Workspace 2.0); (h) parents agree to participate in all phases of the study, including baseline, intervention, withdrawal, reintroduction of intervention, and follow-up phases; (i) family has a tablet or laptop and a stable internet connection at home; and (j) the family lives 2 or more hours away by public transit from Vancouver. The family was not eligible for the study if: (a) child had a comorbid diagnosis of another developmental disability or mental health condition such as Down syndrome or anxiety disorder; (b) child engaged in severe problem behaviour such as self-injury or physical aggression that caused physical harm to self or others; (c) during screening observations, child engaged in little to no
observable problem behaviour; and (d) the parent(s) had a mental health condition that required medical and/or psychological treatment.

Shun was the focus child of the study. He was a 5-year-old boy with a diagnosis of ASD and global developmental delay. He received early intensive behaviour intervention services from local service providers for approximately 10 hrs. a week since the age of 4. He also took 1-hr.-long weekly music therapy lessons. His main methods of communication involved physical communication such as leading others by hand and grabbing desired items. Although he was able to imitate sounds modeled by others, the spontaneous use of words was rarely observed by his parents. For his receptive language, he was able to follow approximately 10 simple one-step instructions. Prior to the study, Shun exhibited a variety of problem behaviours at home and in the community. Due to his problem behaviours, he attended local public school part-time.

Sayaka was the primary collaborator in the study and the primary implementer of the PBS plan. She moved to Canada approximately 10 years ago. She understood and spoke conversational English, but she felt more comfortable talking in Japanese. She worked three times a week at a local restaurant in the evenings and took care of her children during the day when they were at home. At home, she talked to both children in Japanese. Prior to the study, Sayaka never received training related to PBS.

Rika was a 2-year-old girl with a language delay. Following the first baseline phase, she received a diagnosis of ASD and global developmental delay, and started receiving early behaviour intervention services from the local agency that provided services to Shun. She also participated in weekly music therapy lessons with Shun. Prior to the study, she had no history of using sign or vocal language for communication. She used facial expressions, moved closer to parents, and/or used non-verbal vocalization (e.g., whining, screeching) to communicate. She
was able to follow less than 10 one-step instructions. She also exhibited a variety of problem behaviour at home and in the community.

Mark was the father of the two children. He was a full-time employee in the field of IT, and worked 5 days a week from Monday to Friday and sometimes on weekends. Because he was not present during the target routine due to his work schedule, he was not an implementer of the PBS plan for the targeted morning routine. At the initial interview, he described the home setting as highly stressful due to his children’s problem behaviour. Prior to the study, he never received training related to PBS.

During the recruitment process, Sayaka sent me an email to communicate her interest in participating in the study after seeing a short description of the study for recruitment on a Japanese website mostly used by Japanese people living in British Columbia. In reply, I sent her the advertisement for recruitment and the letter of initial contact to provide more information about the study. I then followed up with a brief phone interview to review and tentatively confirm inclusion criteria. Following the phone interview, I obtained preliminary screening consent from Sayaka and Mark (see Appendix A) and initiated the screening process at their home. The preliminary screening consisted of: (a) a brief functional assessment interview (adapted from O’Neill, Albin, Storey, Horner, & Sprague, 2015); (b) family routine assessment (Lucyshyn, Kayser, Irvin, & Blumberg, 2002); and (c) two in vivo observations of child behaviour in the target family routine. The first two interviews identified behaviours of concern and valued family routines in which problem behaviour occurred, one of which became the study’s target routine. The routine was then operationally defined with the family, consistent with the elements of a family activity setting (Lucyshyn, et al., 2002). In vivo observations were
then conducted to confirm the presence of mild to moderate child problem behavior in the routine.

After confirming the family’s eligibility for study participation, Sayaka’s family was invited to participate in the study. The parents were provided with an informed consent form for study participation, and supplementary information sheets about the study (see Appendix B). I then traveled to their home with Dr. Lucyshyn to review the consent form and information sheets, and answer any questions that the family had about the research or behaviour support approach. After answering the family’s questions, the family agreed to participate in the study and both parents signed the informed consent form for participation. I then initiated the study’s start-up procedures.

2.2 Settings

The parents and I decided to work on a morning home routine to get ready for school. Subroutines within the morning routine and rooms associated with each subroutine were determined based on the family’s vision of a successful morning routine identified during the screening process. These were: (a) waking up in bedroom; (b) washing face in the bathroom; (c) eating breakfast at a table in the kitchen; (d) brushing teeth in the bathroom; (e) changing clothes in the bedroom or entrance way; (f) managing free time if applicable in any rooms; and (g) putting on shoes and leaving home at the entrance hallway.

2.3 Set-up and Materials

Morning routine sessions were video-recorded using a HD camcorder with a tripod. Workspace 2.0 was set up to share observation videos and other training videos used during initial training and coaching sessions. Workspace 2.0 is a video-sharing system which “meets UBC policy and BC legislative requirements” (The University of British Columbia, n.d.a). Skype
for Business was selected as the mean of delivery of the coaching sessions. It is a secure platform for telepractice that is approved by the Behavioural Research Ethics Board at UBC (The University of British Columbia, n.d.b). Skype for Business enables two or more parties living at a distance to communicate with a video image, to share screens, and to send instant messages (The University of British Columbia, n.d.b).

2.4 Measurement

The primary method of measurement involved video-recorded observations of Sayaka, Shun, and Rika participating in the morning routine. The parents and I determined optimal locations to place the HD camcorder with tripod during each subroutine to capture the view. First I demonstrated to Sayaka how to use the camcorder. Sayaka then practiced moving the camcorder and setting it up at the assigned locations in each room until she became fluent with the set up.

To log into Workspace 2.0 and Skype for Business, usernames and passwords were required. I shared them with her by email and visited her home again to set up the systems on the family’s laptop. Specifically, I: (a) helped her log into Workspace 2.0 and Skype for Business; (b) demonstrated how to upload and delete videos on Workspace 2.0 using a sample video; (c) taught her how to call me and how to pick up my call through Skype for Business; and (d) asked her to practice using both of the systems while I was in another room of her home with my laptop.

Across phases of the study, Sayaka recorded a video of the morning routine once per week. The schedule of video observations was determined based on her availability. After each video observation, she uploaded the video(s) to Workspace 2.0. All videos then were downloaded from Workspace 2.0 to the hard drive of a desktop computer in a laboratory in the
Faculty of Education building at UBC and reviewed by the trained coders (i.e., myself and another Japanese graduate student). The dependent variables of the study are described below.

Dependent variables. Two experimental child dependent variables were measured: (a) child problem behaviour; and (b) child positive engagement in the routine. In addition, two descriptive measures were gathered: (a) parent indices of contextual fit; and (b) parent ratings of social validity. These dependent variables and their measurement procedures are defined below.

**Percentage of intervals of problem behavior.** Problem behaviour was defined as those that negatively affected the child and/or family’s quality of life (Hastings et al., 2005; Lecavalier et al., 2006). During the screening procedure, the parents and I collaboratively identified problem behaviour exhibited by Shun. Problem behaviour included: (a) physical aggression; (b) disruptive or destructive behaviour; (c) noncompliance; (d) climbing; (e) negative vocalizations; (f) food refusal behaviour; (g) leaving assigned area; (h) physical resistance; and (i) inappropriate eating behaviour. Table 2.1 presents an operational definition of each category of behaviour and examples of problem behaviour reported by the parents or observed during *in vivo* and video recorded observations.

*Table 2. 1*

**Operational Definitions of Shun’s Problem Behaviour**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Operational Definitions</th>
<th>Child-Specific Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical aggression</td>
<td>• Negative physical contact toward another person that causes distress, pain, or injury</td>
<td>• Biting, pinching, and squeezing others; pushing or pushing away others</td>
</tr>
<tr>
<td>Disruptive\Destructive behaviour</td>
<td>• A wide class of behaviour that includes behaviour that are disruptive to family members and routine success and that are destructive to objects</td>
<td>• Touching mother’s chest; sitting on a table; repeatedly opening and closing doors; removing clothing; putting back pajamas once being removed; jumping on bed;</td>
</tr>
<tr>
<td>Negative vocalizations</td>
<td>• Non-verbal vocalizations that are negative in tone. They can range from low to high intensity</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Physical resistance</td>
<td>• Physical resistance to parent physical assistance or restraint</td>
<td></td>
</tr>
<tr>
<td>Climbing</td>
<td>• Climbing an object that is not designed for climbing and that can potentially harm the child or others or be broken</td>
<td></td>
</tr>
<tr>
<td>Food refusal behaviour</td>
<td>• Physically resisting or vocally refusing to consume food presented to the child</td>
<td></td>
</tr>
<tr>
<td>Inappropriate eating behaviour</td>
<td>• Meal-related behaviour that is socially regarded as inappropriate or bad manners</td>
<td></td>
</tr>
<tr>
<td>Noncompliance</td>
<td>• Failure to initiate compliance with the mother’s request within 10 seconds of the delivery of a demand or request</td>
<td></td>
</tr>
<tr>
<td>Leaving assigned area</td>
<td>• During a family routine, the child physically leaves the area that a parent designates as acceptable for the child, or runs away from a parent during a task or activity.</td>
<td></td>
</tr>
</tbody>
</table>

- slamming door; throwing hard objects; pushing over chair
- Whining, screeching, screaming, or crying that are negative in tone
- Pushing, pulling, turning, or wiggling away from parent; arching back, sliding down and out of parent’s grasp; grabbing arm to stop parent; pushing parent’s arm away
- Climbing a bar in a shower stall, chair, table, bed frame, cupboard, bookshelf, and a couch
- Turning head away when presented with food; spitting food out of mouth; throwing utensil with food on it on floor or across table
- Spitting into a cup; scooping food from a served bowl or plate and dropping it on the table or floor; playing with utensils or cup; taking food from others; taking food out from his mouth; licking drink or food from table
- Sitting on floor for 11 or more seconds after parent says, “Put on your sock” and then pointed to sock; making a verbal protest while complying to request (e.g., “No”); chewing on toothbrush after being told to brush his teeth
- Child goes into living room after being told to go into washroom; leaving chair during breakfast; getting off of stool in washroom after being told, “It is time to brush teeth.”
During each observation session, the total duration of the morning routine was divided into 10-s intervals, and a 10-s partial interval recording procedure was used to record the occurrence and non-occurrence of problem behaviour. In addition, for intervals in which Shun could not be visually observed: (a) occurrence of problem behaviour was scored when there was auditory or contextual evidence that Shun engaged in problem behaviour (e.g., coders heard negative vocalizations by Shun; Sayaka responded to Shun’s problem behaviour by commenting on his problem behaviour; coders heard Sayaka talking to Shun while he was out-of-assigned area); (b) non-occurrence of problem behaviour was scored when auditory or contextual evidence indicated that Shun did not engage in problem behaviour during the interval (e.g., walked out of camera view but remained in the washroom while waiting for mother to finish helping his sister); and (c) behaviour not observed was scored when Shun could not be visually observed and no auditory or contextual information provided evidence of the occurrence or non-occurrence of problem behaviour. The number of intervals of occurrence of problem behaviour was divided by the total number of observed intervals, and then the computed number was multiplied by 100 to obtain a percentage of intervals with problem behaviour. Percentage of nonoverlapping data (PND; Barton, Lloyd, Spriggs, & Gast, 2018) also was calculated. The percentage of nonoverlapping data for Shun’s problem behaviour was calculated by first identifying the range of data points in the baseline phase; then counting the number of data points in the intervention phase that fell below the range of baseline data in the hypothesized direction; next, dividing the number of data points in the intervention phase that were outside the range of the baseline phase by the total number of data points in the intervention phase; and multiplying by 100 (Barton, Lloyd, Spriggs, & Gast, 2018).
Percentage of intervals of child positive engagement in the routine. Child positive engagement in the routine was defined as socially appropriate, on-task engagement in the target routine (Clarke et al., 1999). To be positively engaged in the routine, the child needed to engage in a step of a routine task with or without a parent prompt. With assistance from me, Sayaka and Mark identified routine related tasks that they wanted Shun to engage in during each subroutine. See Table 2.2 for subroutine tasks expected for the morning routine.

Table 2.2

Subroutine tasks expected for the morning routine

<table>
<thead>
<tr>
<th>Subroutine</th>
<th>Tasks Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waking up</td>
<td>• Shun wakes up and gets up from the bed; goes into washroom</td>
</tr>
<tr>
<td>Washing face</td>
<td>• Shun washes and dries his face.</td>
</tr>
<tr>
<td></td>
<td>• Shun waits for mother and sister while mother assists sister to wash and dry her face</td>
</tr>
<tr>
<td>Eating breakfast</td>
<td>• Shun goes to kitchen, sits on chair and begins eating breakfast; and/or</td>
</tr>
<tr>
<td></td>
<td>• Shun waits for food until mother serves it and eats food on his own or upon mother’s request.</td>
</tr>
<tr>
<td></td>
<td>• If a show is on laptop, Shun watches show and/or eats breakfast in his seat</td>
</tr>
<tr>
<td>Brushing teeth</td>
<td>• Shun goes to bathroom and brushes his teeth.</td>
</tr>
<tr>
<td></td>
<td>• Shun complies to mother while she brushes his teeth to finish-up.</td>
</tr>
<tr>
<td></td>
<td>• Shun waits for his sister in washroom while mother brushes her teeth.</td>
</tr>
<tr>
<td>Dressing</td>
<td>• Shun goes to bedroom or hallway</td>
</tr>
<tr>
<td></td>
<td>• Shun takes off his pajamas and puts on a shirt, pants, socks, and underwear;</td>
</tr>
<tr>
<td></td>
<td>• Shun puts on outerwear (e.g., jacket) if applicable.</td>
</tr>
<tr>
<td></td>
<td>• Shun waits for sister while mother dresses her.</td>
</tr>
<tr>
<td>Leaving home</td>
<td>• Shun puts on footwear and waits for his mother and sister to get ready.</td>
</tr>
<tr>
<td>Transitioning from one subroutine to another</td>
<td>• Shun walks from an assigned area to the next assigned area.</td>
</tr>
</tbody>
</table>
The total duration of the target routine was divided into 10-s intervals, and each interval was coded as positive engagement or nonengagement in the routine. In accordance with previous research, positive engagement was scored when Shun engaged in routine-related behaviour 7 out of 10 seconds of an interval (Clarke et al., 1999). For intervals in which Shun could not be visually observed: (a) occurrence of positive engagement was scored when there was auditory or contextual evidence that he was not engaging in problem behaviour (e.g., while mother assisted Rika in the bathroom, Shun walked out of the field of view but remained in the bathroom or his assigned area; mother was heard praising Shun for doing a task step and labelling the treat she gave him); (b) non-occurrence of positive engagement was scored when there was auditory or contextual evidence that Shun was not engaging in routine-related behaviour (e.g., coder heard negative vocalization by Shun for more than 3 seconds; mother was heard making a request to engage in subroutine task (e.g., put on shoes) but when Shun was back in view he had not initiated the task; and (c) behaviour not observed was scored when auditory or contextual information provided no evidence of the occurrence or nonoccurrence of positive engagement. The number of intervals with positive engagement in the routine was divided by the total number of the observed intervals, and then multiplied by 100 to obtain a percentage of intervals of positive engagement in the routine. The percentage of nonoverlapping data for Shun’s positive engagement in the morning routine was calculated by first identifying the range of data points in the baseline phase; then counting the number of data points in the intervention phase that rose above the range of baseline data in the hypothesized direction; next, dividing the number of data points in the intervention phase that were outside the range of the baseline phase by the total number of data points in the intervention phase; and multiplying by 100 (Barton et al., 2018).
**Goodness of fit.** The goodness of fit survey (Albin, Lucyshyn, Horner, & Flannery, 1996) was developed to measure a behaviour support plan’s congruence with a family’s values, skills, resources, and social supports. The survey consists of 20 questions, with two questions asking parents to rate the importance of a previous question. A Likert-type scale from 1 to 5 is used with 1 (not at all) indicating *a poor fit* and 5 (very well) indicating *a good fit* (Albin et al., 1996). Questions include, for example, “Do you believe the support team understands the needs your child has for support across the hours of each day and in each important setting in which he or she participates?” and “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?” The survey was administered immediately after the development of the PBS plan, after the third observation session during the intervention phase, and at the completion of the intervention phase. The survey was delivered to Sayaka and Mark via email. Each parent completed the survey and sent it back to me by e-mail. Average goodness of fit indices for both parents were obtained by computing a sum of scores across the 18 scoreable questions, divided by 18.

**Social validity.** A social validity questionnaire developed by Lucyshyn, Albin, and Nixon (1997) assessed the parent’s level of satisfaction with the goals, procedures, and outcomes of the intervention. The questionnaire consists of 10 items using a 5-point Likert scale with 1 indicating *disagree* and 5 indicating *agree*. Questions include, for example, “The goals of the behaviour support plan are appropriate for my child,” “The strategies and procedures used are difficult to carry out in the home or community, and “The outcomes of the support effort are beneficial to my family as a whole.” Following each item in the questionnaire is a space for parents to offer written comments. The questionnaire was administered after the third observation session during the intervention phase and again at the completion of the intervention phase.
phase. The questionnaire was delivered to Sayaka and Mark via email. Each parent completed the questionnaire and sent it back to me by e-mail. Average social validity ratings for both parents were obtained by computing a sum of scores across the 10 questions, divided by 10.

Interobserver agreement (IOA). IOA data on percentage of intervals of problem behavior and percentage of intervals of child positive engagement in the routine were gathered by me and a trained observer. All IOA training and coding sessions occurred in a secure laboratory in the Faculty of Education at the University of British Columbia. Since the mother spoke in Japanese during observation sessions, prior to conducting IOA data collection, I provided training sessions to a graduate student in the Faculty of Education at the University of British Columbia who was born and raised in Japan and is fluent in the Japanese language. She received a written manual that provided operational definitions of child problem behaviour and child positive engagement in the routine. Examples and non-examples were provided for each category of problem behaviour and positive engagement in subroutines. After clarifying ambiguities during initial discussions of coding categories, I directly trained the observer to code one video from each phase. Video recorded observations sessions used for training were different from those used for IOA coding. IOA was gathered once the graduate student coder and I reached at least 85% agreement for problem behaviour and positive engagement across two consecutive video recorded observations.

During IOA data collection, the graduate student coder and I independently and simultaneously coded video-recorded observation sessions from baseline and intervention phases. A physical divider between us ensured the independence of our coding. IOA was assessed in 33% of video-recorded baseline observations and 28% of video-recorded intervention observations. For percentage of intervals of problem behaviour and percentage of intervals of
child positive engagement in the routine, IOA was calculated using the point-by-point method, which is the number of agreement intervals divided by the total number of intervals and multiplied by 100 (Ayres & Ledford, 2014).

**IOA for percentage of intervals of Shun’s problem behaviour.** Agreement was scored when the graduate student coder and I agreed on the occurrence or non-occurrence of problem behaviour, or both observers scored a given interval as unobservable due to child being out of the video frame with no clear indicator of the presence or absence of problem behaviour. Average interobserver agreement for percentage of problem behaviour was 85% (range, 83-86%).

**IOA for percentage of intervals of Shun’s positive engagement in the routine.** Agreement was scored when the graduate student coder and I agreed on the occurrence or non-occurrence of child positive engagement in routine related tasks, or both observers scored a given interval as unobservable due to child out of video frame with no clear indicator of the presence or absence of child positive engagement in the routine. The average interobserver agreement for percentage of positive engagement was 85% (range, 83-86%).

### 2.5 Research Design

Following previous studies that demonstrated a functional relation between parent implementation of a PBS plan in home-based routines and improvements in child behaviour and routine participation (Cheremshynski et al., 2013; Clarke et al., 1999), my original intention was to employ an A-B-A-B-C design; also referred to as a single case withdrawal design with follow-up. The design is considered one of the best single case research designs to demonstrate a causal relation between independent and dependent variables (Gast and Baekey, 2014). The design has five phases: baseline, initial intervention, withdrawal, reintroduction of intervention, and follow-up. Because of my time requirement for graduation from the Master’s program and the family’s
plan to go to Japan at the end of school year in June for 3 months, my supervisor and I agreed to conclude my Master’s thesis research with an A-B clinical case study design and received concurrence from my thesis committee. My intention is to complete the single case withdrawal design with follow up after my graduation. With this intention in mind, my supervisor and I also consulted with the family and they agreed to complete the final three phases of the originally planned withdrawal design after Sayaka and her children return from Japan in September.

There are two phases in the A-B design: a baseline phase and an intervention phase. In the current study, during the baseline phase, Sayaka attempted to implement her envisioned routine as best as she could. After collecting three data points and a stable or deteriorating pattern of child problem behaviour and positive engagement was observed, the intervention phase was initiated. Intervention data were collected until the end of school year with the unified understanding with the family that the study would continue in September and that I would work closely with Sayaka to further improve Shun’s behavior and participation in the morning routine.

A detailed description of study procedures is below.

2.6 Procedures

Three main steps were involved in the study: (a) initial screening for study participation; (b) baseline phase; and (d) intervention phase. Specific procedures taken for each step are described below. All phases were led by me, with Dr. Lucyshyn providing modeling assistance and supervisory feedback as necessary during initial screening, PBS plan design, and implementation support by telepractice with the family. His support was faded as I became more skilled in each of the procedural steps.

Initial screening. Prior to the initiation of baseline, three screening activities were conducted with the family: (a) a brief functional assessment interview (FAI; adapted from
O’Neill et al., 2015); (b) a routine assessment interview (Lucyshyn, et al., 2002); and (c) an in-vivo observation of the child at home setting.

The brief FAI was used to obtain information about: (a) Shun’s behaviours of concern; (b) possible predictors that increased the likelihood of his problem behaviour; and (c) possible functions of the problem behaviour. The family routine assessment interview assisted me in identifying (a) Shun’s typical schedule; (b) family routines that were valued by the family but problematic due to child problem behaviour; and (c) priorities for the family among identified routines. During the interview, the parents and I engaged in a collaborative discussion to identify a target home routine. After reaching consensus to work on the morning routine, a vision of a successful routine was operationally defined with the family, consistent with the elements of a family activity setting (Lucyshyn et al., 2002). Elements discussed were: (a) time and location of each subroutine of the morning routine (e.g., wash face in bathroom, eat breakfast in kitchen, get dressed in bedroom); (b) people who would be present; (c) materials that would be used during routine (e.g., food, utensils, clothing); (d) tasks for each person during the routine; (e) goals for each person in the routine; and (f) values reflected in the routine. Table 2.3 summarizes the operational definition of the envisioned morning routine.
### Operational Definitions of the Envisioned Morning Routine

| Place and Time for Each Subroutines | • Wake up in bedroom (7:30 am), wash face in bathroom (7:35 am), eat breakfast in dining area of kitchen (7:40 am), brush teeth in the bathroom (8:10 am), get dressed in bedroom or at entrance way (8:20 am), manage free time if applicable in any rooms of the home; put on shoes at the entrance and leave home for school (8:25 am) |
| People present | • Shun, Sayaka, Rika |
| Materials needed for each of the subroutines | • Waking up: N/A  
• Washing face: towel to dry face  
• Eating breakfast: chopsticks, spoon, fork, table and chair, plate and/or bowl of rice with fermented soy beans, cup with drink (i.e., milk and/or water)  
• Brushing teeth: toothpaste, toothbrush, cup  
• Dressing: underwear, pants, shirts, outerwear appropriate for the weather and socks depending on season  
• Leaving home: shoes |
| Shun’s tasks | • Wake up  
• Go to the bathroom  
• Wash and dry face  
• Go to kitchen  
• If applicable, wait for mother in kitchen until she prepares food  
• Sit at dining table and eat served breakfast with utensils  
• Go to bathroom  
• Brush teeth, tolerate mother brushing his teeth for a finish-up, and wait for sister to get her teeth brushed  
• Go to the bedroom  
• Get dressed  
• Wait for sister to get dressed  
• If applicable, manage free time  
• Put on shoes  
• Leave home with mother and sister |
| Sayaka’s tasks | • Arouse Shun or both children  
• Assist Shun, at a developmentally appropriate level, in completing tasks of morning routine  
• Assist daughter, at a developmentally appropriate level, in completing tasks of morning routine  
• During breakfast and afterward connect with her mother in Japan by video platform on cellphone or laptop  
• Brush teeth  
• Get dressed in outside clothes  
• Check to make sure house is secured |
Rika’s tasks

- Put on shoes
- Leave home with children
- Wake up
- Go to washroom
- Wash and dry face
- Go to kitchen
- Sit at the table and eat served breakfast with utensil
- Go to bathroom
- Brush teeth or tolerate getting teeth brushed by the mother and wait while mother assists Shun to brush his teeth
- Go to the parents’ bedroom
- Dress herself or tolerate getting dressed by mother and wait for her brother to get dressed
- If applicable, manage free time
- Put on shoes
- Leave home with parent and brother

Child-centred goals for Shun

- Short term goal: To complete morning routine tasks in a timely manner and eat breakfast at the table without taking out food from his bowl or plate and dropping food on floor.
- Long term goal: To be more independent, with minimal assistance from mother to complete morning routine tasks

Child-centred goals for Rika

- Short term goal: to cooperate mother throughout routine and maintain a quiet voice during routine

Family-centred goals

- Parents to feel that the children are well behaved and that they can effectively support both children in their development

Values reflected in the morning routine

- Children cooperating with parents
- Calm morning routine
- Children developing at their appropriate level given their ages
- Feeling effective as a parent with two children
- Children eating a healthy breakfast
- Reciprocal communication between parent and child
- Staying connected to grandmother who lives in Japan

During the interviews, both children exhibited frequent problem behaviour. The observation confirmed the presence of mild to moderate child problem behavior in the home setting. To ensure the family’s safety and the mother’s mental wellbeing, criteria for termination of an observation session due to untolerated problem behaviour was determined with the mother; however, Sayaka decided to continue the morning routine regardless of Shun’s problem behaviour because none caused physical injury to others or damage to objects during the routine.
Baseline. Prior to initiating baseline data collection, Sayaka conducted trial observation sessions to master video recording the morning routine, and to identify and solve logistical issues involved in video recording the routine. During these trial observations, I trained and supported Sayaka in conducting the video recordings and collaborated with her to solve logistical problems. During an observation session, Sayaka read the definition of the envisioned routine (Table 2.3), attempted to engage both children in the routine, and video recorded the routine by placing the camcorder at an optimal location in each subroutine. After the observation session, Sayaka uploaded the video onto Workspace 2.0. A total of two trial observation sessions were conducted to obtain a satisfactory level of video recorded observations.

Following trial observation sessions, baseline measurement was conducted. Procedures were identical to the trial sessions. Before each video observation of the morning routine, Sayaka read the definition of the envisioned routine. Within one or two days after a baseline observation session, Sayaka uploaded the video of the observation session onto Workspace 2.0. I then coded the baseline observation in order to make data-based decisions about when to initiate the intervention phase. Three data points were collected during the baseline phase. These data are considered to be the minimal number necessary to determine level, trend, and stability of the data path (Gast and Spriggs, 2014). The baseline observation period lasted for 3 weeks.

Intervention. The intervention phase consisted of the following activities: (a) family ecology assessment; (b) functional assessment for Shun; (b) functional assessment for Rika; (c) preliminary PBS plan design; (d) administration of goodness of fit survey; and (d) implementation support. These activities are described below.

**Family ecology assessment.** I first conducted the family ecology assessment. The family ecology assessment provides information about features of family ecology relevant to the design
of a contextually appropriate PBS plan and the provision of family centred supports that address the needs of the family as a whole (Albin et al., 1996; Lucyshyn et al., 2002). The assessment is strength-based and is completed collaboratively. The assessment consisted of a series of open-ended, semi-structured questions, about family strengths, child positive contributions to the family, formal and informal resources, social supports, and goals for the child and family.

I completed the family ecology assessment with Sayaka and Mark via Skype for Business. The assessment took approximately 1 hr. to complete. I used the results of the assessment to develop a contextually appropriate PBS plan and to identify and provide additional family centred supports. To do so, I used a rubric to assist me in developing a PBS plan that built on family and child strengths, incorporated the family’s informal and formal resources, strengthened social supports as needed, aimed to reduce stressors and addressed the family’s priority goals for the child and family. Results of the family ecology assessment and contextual fit considerations incorporated into the behaviour support plan and implementation support process are summarized on Table 2.4.
### Table 2.4

**Family Ecology Assessment Results**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Responses</th>
<th>Contextual Fit Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family Strengths</strong></td>
<td>• Sayaka and Mark are very cooperative with each other&lt;br&gt;• The family does many activities together&lt;br&gt;• Sayaka is very patient&lt;br&gt;• Sayaka tries to think in child’s perspectives (e.g., tries to get to child’s eye level, talks to child in simple language)</td>
<td>• Invite Mark to join process of developing PBS plan and training for plan implementation</td>
</tr>
<tr>
<td><strong>Child Contributions</strong></td>
<td>• Sayaka learned to take initiative and advocate for child (e.g., for Shun to have longer school day, talking to her behaviour consultant to let her advocate for the child)</td>
<td>• Both parents will participate in parent training; Sayaka will assist in teaching strategies to father <em>in situ</em> once she learns to effectively use the behaviour support strategies with children.&lt;br&gt;• Sayaka will communicate with school personnel to start school day with activities Shun likes or provide him with preferred item when he arrives to reduce his aversion to school.</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td>• For children: music therapy; local behaviour consultant and agency that provide behaviour intervention services&lt;br&gt;• For Sayaka: Japanese parent support groups&lt;br&gt;• For Mark: none</td>
<td>• Provide information about local parent support groups for father to obtain more social support.</td>
</tr>
<tr>
<td><strong>Social Supports</strong></td>
<td>• For Sayaka: grandmother; friends with children with autism; parents from Japanese support groups; parents from a local agency&lt;br&gt;• For Mark: coworkers; his siblings</td>
<td>• Initially, Sayaka will be asked to call her grandmother outside the morning routine. This will be reinstated once child’s problem behaviour decreases to a</td>
</tr>
</tbody>
</table>
Stressors

- For Sayaka: Shun’s problem behaviour which results in her needing to pick him up early from school, or talk to his classroom teacher, and/or go on a field trip with him; getting Shun ready for school has been very challenging; takes really long time; Rika’s problem behaviour when mother is at home but not available for her
- For Mark: children not complying to parents’ requests; children’s problem behaviour which makes him irritable and at times angry
- As a family: Children’s problem behaviour which results in the family not being on time; Shun is going to school part time due to his problem behaviour; Shun’s problem behaviour makes grocery shopping difficult, prevents family from going to a restaurant; parents feeling they have no break; parents feeling depressed, anxious, or worried because their friends’ children, who are typically developing, are very different from theirs; Rika’s delay in language development

Goals

- For Shun: communicating his wants and needs especially when he’s not feeling well; understanding what parents are saying; going to school for full day; having a medical check without engaging in problem behaviour; having back-and-forth conversation with mother
- For Rika: Create a PBS plan for Rika to reduce her problem behaviour and facilitate language development.

satisfactory level and mother implements PBS plan with fidelity.

- Initially, teach preventative strategies to Mark. Introduce other strategies once there is a decrease in child problem behaviour or Mark is comfortable with trying other strategies.
- Teach parents effective methods of prompting communication with children
• For Sayaka: going out once a week by herself
• For Mark: doing ordinary things without difficulty (e.g., going to grocery store or eating at restaurant without worrying about children’s problem behaviour); staying calm in response to children’s problem behaviour
• For Rika: not screeching; communicating using language; spending time with others even when mother is present but not available to her
• As a family: being on time
• Mindfulness support for Mark
• Training for a babysitter for Rika to spend time with others when mother is at home.

Priority Goals

- Home routines
  1. Get ready for school
  2. Free time at home
- Community
  1. Grocery shopping
  2. Restaurant
- PBS plan to address morning routine.
Based on the assessment, two family centred supports were deemed particularly important to improve the contextual fit of the FCPBS plan. They were: (a) mindfulness training for Mark; and (b) a functional assessment and PBS plan for Rika. In addition, training for a babysitter was provided in preparation for telepractice sessions because the parents reported that Rika engaged in problem behaviour when Sayaka was at home but not available to her. The parents wanted Rika to enjoy spending time with others even when Sayaka was at home but busy with household tasks.

**Functional assessment for Shun.** I conducted the functional assessment interview for Shun (O’Neill et al., 2015). The assessment was conducted with the parents via Skype for Business. The full assessment was completed across two days and a total of 3.5 hours. Following the FAI, I watched two randomly selected morning routine videos from the baseline phase and filled out a functional assessment observation form (FAO; O’Neill et al., 2015). FAO data were coded in the laboratory of the Faculty of Education building at UBC. Information obtained from the FAI and FAO were used to develop summary hypothesis statements about the functions of Shun’s problem behaviour.

Three hypotheses emerged from the functional assessment. First, Shun engaged in physical aggression, disruptive or destructive behaviour, negative vocalizations, physical resistance, food refusal, noncompliance, and/or leaving assigned area to escape tasks or parent requests/demands. Second, Shun engaged in physical aggression, negative vocalization, inappropriate eating behaviour, climbing, and/or leaving assigned area to obtain desired items or activities. Third, Shun engaged in physical aggression or disruptive behaviour to obtain attention from his parents. Table 2.5 summarizes results of the functional assessment for Shun.
Table 2. 5

**Functional Assessment Summary for Shun**

<table>
<thead>
<tr>
<th>Setting events associated with problem behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Person factors</strong></td>
</tr>
<tr>
<td>• Delay in language development and limited communication skills</td>
</tr>
<tr>
<td>• Limited play skills and less interest in toys</td>
</tr>
<tr>
<td><strong>Environmental and biological factors</strong></td>
</tr>
<tr>
<td>• Lack of predictability</td>
</tr>
<tr>
<td>• Lack of choice making opportunities</td>
</tr>
<tr>
<td>• Transitioning from one activity to another</td>
</tr>
<tr>
<td>• Crowded environment</td>
</tr>
<tr>
<td>• Lack of activities to occupy himself while mother is busy</td>
</tr>
<tr>
<td>• Target routine starting right after he wakes up</td>
</tr>
<tr>
<td>• Child is sick or constipated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Antecedent events that triggers problem behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Triggers for escape-motivated problem behaviour</strong></td>
</tr>
<tr>
<td>• Requests/demands to do difficult or nonpreferred tasks</td>
</tr>
<tr>
<td>• Abrupt, unexpected changes in routine</td>
</tr>
<tr>
<td>• Nonpreferred or difficult tasks or non-preferred foods presented</td>
</tr>
<tr>
<td><strong>Triggers for tangible-motivated problem behaviour</strong></td>
</tr>
<tr>
<td>• Desired items are present</td>
</tr>
<tr>
<td>• Access to desired items are denied or blocked</td>
</tr>
<tr>
<td>• Desired activities are interrupted</td>
</tr>
<tr>
<td><strong>Triggers for attention-motivated problem behaviour</strong></td>
</tr>
<tr>
<td>• When no attention is given to child (e.g., mother is talking to another person, mother is attending to daughter)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypotheses about the functions of problem behaviours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Shun engages in physical aggression, disruptive or destructive behaviour, negative vocalization, physical resistance, food refusal, noncompliance, and/or leaving assigned area to escape tasks (e.g., changing clothes) or parent requests/demands</td>
</tr>
<tr>
<td>• Shun engages in physical aggression, negative vocalization, inappropriate eating behaviour, climbing, and/or leaving assigned area to obtain desired items or activities (e.g., snacks, TV show)</td>
</tr>
<tr>
<td>• Shun engages in physical aggression or disruptive behaviour to obtain attention from parents (e.g., physical contact, verbal reprimand, mother talks to Shun).</td>
</tr>
</tbody>
</table>

**Functional assessment for Rika.** Due to the family’s goal of addressing Rika’s problem behaviour identified during the family ecology assessment, I also conducted a FAI (O’Neill et
al., 2015) and FAO (O’Neill et al., 2015) for Rika. The assessment procedures were identical to those used for Shun. The FAI took 1.5 hours to complete.

The functional assessment identified three hypotheses about the function of Rika’s problem behaviour. First, Rika engaged in disruptive or destructive behaviour, negative vocalizations, physical resistance, and/or noncompliance to escape tasks or parent requests/demands. Second, Rika engaged in disruptive or destructive behaviour, negative vocalizations, and/or climbing to obtain desired items or activities. Third, Rika engaged in disruptive or destructive behaviour, negative vocalizations, climbing, and leaving assigned area to obtain attention from mother. Table 2.6 summarizes results of the functional assessment for Rika.
Table 2. 6

Functional Assessment Summary for Rika

Setting event that are associated with problem behaviour

Person factors
• Delay in language development and limited communication skills
• Limited play skills

Environmental and biological factors
• Lack of predictability
• Lack of choice making opportunities
• Another person needs to take care of Rika in presence of Sayaka
• Crowded environment
• Child is hungry

Antecedent events that triggers problem behaviour

Triggers for escape-motivated problem behaviour
• Demands or requests to do difficult or nonpreferred tasks
• Nonpreferred or difficult tasks presented

Triggers for tangible-motivated problem behaviour
• Desired items are present
• Access to desired items are denied or blocked

Triggers for attention-motivated problem behaviour
• When no attention is given to child (e.g., mother is talking to another person, mother is not available for the child in while she is at home with her; mother is attending to son)

Hypotheses about the functions of problem behaviour
• Rika engages in disruptive or destructive behaviour, negative vocalizations, physical resistance, and/or noncompliance to escape tasks or parent requests/demands (e.g., putting on clothes)
• Rika engages in disruptive or destructive behaviour, negative vocalizations, and/or climbing to obtain desired items or activities (e.g., snacks)
• Rika engages in disruptive or destructive behaviour, negative vocalizations, climbing, and leaving assigned area to obtain attention from mother (e.g., physical contact, verbal reprimand, mother talks to child)

Results of the functional assessment for Shun and Rika indicated that both of the children engaged in problem behaviour to escape from tasks or demands, to obtain desired items or activities, and to get attention from the parent(s). Furthermore, many of setting events and antecedent conditions of the children’s problem behaviour were similar; therefore, to increase the
feasibility of plan implementation for the mother, one consolidated PBS plan was developed to address both children’s problem behaviour.

**Preliminary Plan Design.** Following the comprehensive assessment, I developed a preliminary multicomponent behaviour support plan. To do so, I first completed competing behavioural pathway diagrams (CPD; O’Neill et al., 2015) relevant to the morning routine for both children and generated possible behaviour support strategies to address their problem behaviour. The CPDs outlined the children’s problem behaviour in the context of a four-part contingency: setting events, antecedent stimuli, problem behaviour, and maintaining consequences. In the diagrams, desired behaviour, alternative replacement behaviour (ARB), and their consequences also were specified to replace problem behaviour. I completed both children’s CPDs based on the results of the functional assessment and the family’s vision of the successful morning routine. Shun’s CPD relevant to the morning routine is illustrated in Figure 2.1. Rika’s CPD relevant to the morning routine is illustrated in Figure 2.2.
- Lack of predictability
- Lack of choice
- Transitioning from one activity to another
- Lack of activities to occupy himself while mother is busy
- Target routine starting right after he wakes up

Setting Events

<table>
<thead>
<tr>
<th>Antecedent Triggers</th>
<th>Desired Behaviour</th>
<th>Maintaining Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Request/demand to do difficult or nonpreferred tasks; abrupt, change in routine; nonpreferred or difficult tasks or non-preferred foods</td>
<td>- Complete morning routine (e.g., wash face, eat breakfast, brush teeth)</td>
<td>- Praise</td>
</tr>
<tr>
<td>- Desired items present; access to desired items denied or blocked by mother; desired activities interrupted</td>
<td>- Tolerate denial of request</td>
<td>- Preferred or, if not available, alternative preferred item or activity</td>
</tr>
<tr>
<td>- Mother talking to or taking care of daughter; mother is occupied</td>
<td>- Play independently while parent is busy</td>
<td></td>
</tr>
</tbody>
</table>

- Physical aggression
- Disruptive or destructive behaviour
- Negative vocalizations
- Physical resistance
- Inappropriate eating behaviour
- Food refusal
- Climbing
- Noncompliance
- Leaving assigned area

Problem Behaviour

<table>
<thead>
<tr>
<th>Maintaining Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Mother withdraws her request or demand (escape)</td>
</tr>
<tr>
<td>- Access to a desired item or activity (tangible)</td>
</tr>
<tr>
<td>- Physical contact and/or verbal reprimand from the mother; mother starts talking to the child (attention)</td>
</tr>
</tbody>
</table>

- Ask for break (escape) or desired item or activity (tangible) using sign or one-word request.
- Ask for attention using physical communication or one-word request.

Alternative Replacement Behaviour

Figure 2.1. Shun’s CPD relevant to the morning routine
**Desired Behaviour**
- Complete morning routine (e.g., wash face, eat breakfast, brush teeth)
- Tolerate denial of request
- Play independently while parent is busy

**Maintaining Consequence**
- Praise
- Preferred or, if not available, alternative preferred item or activity

**Setting events**
- Lack of predictability; lack of choice making opportunities

**Antecedent triggers**
- Demands or requests to do difficult or nonpreferred tasks; nonpreferred or difficult tasks are presented
- Desired items are present; access to desired items are denied or blocked
- Mother is talking to or taking care of her son; mother is occupied

**Problem Behaviour**
- Disruptive or destructive behaviour,
- Negative vocalizations
- Physical resistance,
- Climbing,
- Noncompliance

**Alternative replacement behaviour**
- Ask for break (escape) or desired item or activity (tangible) using sign or one-word request.
- Ask for attention using physical communication or one-word request.

**Figure 2.2** Rika’s CPD relevant to the morning routine
Behaviour support strategies were generated to logically address each element of the CPDs. For setting event strategies, I came up with strategies to set the stage for positive child behaviour. They were to: (a) minimize or eliminate setting events (e.g., embedding natural reinforcers in non-preferred tasks; rearranging sequence of morning routine; using visual supports to increase predictability throughout day); (b) neutralize setting events (e.g., engaging in positive interaction to help Shun become completely awake); and/or (c) increase overall positive reinforcement in the child’s environment (e.g., increase choice opportunities throughout the routine; increase preferred interactions, item, and events throughout the day). Antecedent strategies involved strategies to prevent problem behaviour (e.g., verbal or visual positive contingency statements, safety signals, effective requests). For teaching strategies, methods to teach desired behavior and alternative replacement behaviour were included in the plan (e.g., whole task instruction, functional communication training, tolerance for delay training). The purpose of consequence strategies was to strengthen desired behaviour and alternative replacement behaviour and weaken or eliminate problem behaviour. They consisted of four categories. These were: (a) positive reinforcement procedures to strengthen desired behaviour (e.g., contingent praise for desired behaviour); (b) positive or negative reinforcement strategies to strengthen alternative replacement behaviour (e.g., offering a desired item contingent on child asking for item); (c) strategies designed to redirect minor problem behavior (e.g., parent actively ignores problem behaviour and positively and explicitly tells child to do routine related behaviour); and (d) strategies designed to weaken problem behavior such as withholding the functional reinforcer for problem behaviour.

I met with Sayaka and Mark via Skype for Business to discuss the CPD and the proposed behaviour support plan. I first shared the CPD and table of proposed strategies for Shun with
Sayaka in Japanese (mother) and with Mark in English (father). I then explained how I interpreted their children’s behaviour using the CPD, the rationale for each behaviour support strategy, and what each of the strategies would look like in practice. Throughout the meeting, I encouraged the parents to share their opinions about the CPD, behaviour support strategies, and other parenting strategies that they found to be effective. Strategies for which the parents expressed concerns were discussed and modified. For example, Sayaka expressed an initial concern about the use of edible reinforcers, and so I provided additional information as to why edible reinforcers were likely necessary but also brainstormed with Sayaka about the use of social and activity reinforcers as well. Strategies that the parents used that they viewed as successful and that were congruent with the PBS approach were incorporated into the plan (e.g., providing choices for items of clothing). Modifications or additions to the plan were made to further strengthen the contextual fit of the plan. The total duration of the meeting was 1.5 hrs. See Table 2.7 for the finalized PBS plan for the morning routine developed for Shun and Rika (see Appendix C for detailed behaviour support plan).
Table 2. 7

Behaviour Support Plan for Shun and Rika

Setting event strategies
1. Embed preferred items within subroutines (e.g., serving preferred food, internet show (e.g., YouTube cartoon) while eating breakfast)
2. After waking children, engage in gentle physical contact and talk to them until they become completely awake
3. Use morning visual schedule of routine tasks to increase predictability: (a) after child wakes up; (b) after each subroutine is completed and before next subroutine
4. Provide choice opportunities throughout routine (e.g., visual choice board of reinforcers, preferred foods for breakfast, clothes to put on)
5. Arrange environment so that it becomes more difficult for child to leave an assigned area: (a) seating during breakfast; (b) door safety lock in bathroom

Antecedent strategies
1. Use verbal and/or visual positive contingency statements (e.g., Eat your food, then I turn on show)
2. Provide safety signal to help child understand how long he or she needs to tolerate a delay before getting: (a) item or activity he/she wants (e.g., eat three more bites then you get Yakult); (b) break or end of non-preferred task (e.g., we will wash your face twice, then we will be all done); or (c) parental attention (e.g., Mommy will be back in one minute)
3. Use effective request: (a) be next to child, (b) get child’s attention, (c) use clear, one step requests that explicitly tell child what to do; and (d) wait until child is physically ready to comply to request (e.g., child is not eating food when you ask him to take a bite of food)
4. Provide toys to occupy daughter while assisting son
5. Mother remains at table during breakfast to minimize attention-motivated problem behaviour to effectively assist children to eat their breakfast.

Teaching strategies
1. Use whole task instructions to teach children to do each morning subroutine independently
2. Use functional communication training to teach children to use language: (a) say or sign “break/help”; (b) ask for a desired item or activity; (c) say, “kocchi” (trans. “Come here”), “mama,” or physically communicating his needs (e.g., pulling arm)
3. Once child can use language to communicate the above wants/needs independently and consistently, use safety signal; gradually increase delay in: (a) giving requested item or activity; (b) giving child break or help; or (c) providing attention or assistance

Consequence strategies
1. Provide praise and/or small treat contingent on doing desired behaviour in morning routine: (a) engaging in steps of subroutines; (b) complying to requests; (c) accepting denial of request; and (d) waiting and/or playing nicely while mother is busy.
2. When child requests for what he or she wants (i.e., break or help, desired item, attention), immediately provide him or her with it.
3. If child engages in minor problem behaviour, (a) actively ignore and redirect back to task; (b) prompt them to use language and then honour request; (c) once language is firm, use safety signal to build endurance for delay.
4. If the child engages in moderate to high intensity problem behaviour,
   - For escape motivated behaviour: (a) remain calm; (b) block child from leaving assigned area; (b) if possible, put child through task step; (c) if not possible, wait until child calms down; (c) say, “When calm we continue”; (d) when child is relatively calm, continue task by physically assisting him or her to do task step; (d) after task step is completed, prompt to ask for break if needed; (e) give child a brief break (10-30 seconds); and (f) return to completion of subroutine.
   - For tangible-motivated behaviour: (a) remain calm; (b) actively ignore the child’s problem behaviour until he or she calms down; (c) withhold the delivery of the item for the rest of the morning.
   - For attention-motivated behaviour: actively ignore the child’s behaviour and while minimizing attention, redirect child to appropriate behaviour for the situation.

**Goodness of fit survey and additional support.** The goodness of fit survey was administered to the parents after the parents and I reached consensus on the behaviour support plan. Questions with a score of 3 or less were discussed with the family to improve the contextual fit of the plan. Survey results indicated that both of the parents were equivocal in their views of the contextual fit of the proposed PBS plan (average score 3.2 for Sayaka and 3.8 for Mark). In dialogue with the parents, Sayaka expressed a concern that the behaviour support strategies in the plan were not available for Mark because he was at work during the morning routine. Since Mark was open to the idea of obtaining more support from the research team, it was collaboratively decided with the family that Mark would receive weekly parent training sessions by telepractice in addition to mindfulness training. Parent training with Mark focused on a subset of PBS plan strategies designed to improve his children’s behaviour in the evening and on weekends when he was home (e.g., effective requests, non-contingent attention, positive contingency statements).
Implementation support. In collaboration with the family, I also developed an implementation plan that described the documents I would prepare and the activities I would engage in to train and support the family in their implementation of the PBS plan. These activities and documents were: (a) materials development; (b) written PBS plan and matching 2-page implementation checklist; (c) 4-hour initial training session via telepractice to discuss PBS strategies; (d) telepractice coaching informed by video recorded observations of the morning routine; (e) training and support for father; and (f) training and support to daughter’s babysitter. The implementation plan also specified the roles and responsibilities of each parent and the research team. After obtaining verbal assent from the family, implementation support to the family was initiated. Dr. Lucyshyn coached me by providing modeling in 30% of the training sessions. Across telepractice sessions, he gradually faded support as I became more confident in my ability to effectively train and support the mother in her implementation of the PBS plan in the morning routine with Shun and Rika.

**Material development.** In preparation for the implementation of the PBS plan by the mother, I prepared materials required for plan implementation. These include: (a) a visual sequence of the subroutines in morning routine; (b) a visual sequence of steps in each subroutine; (c) a reinforcer choice board; and (d) a first-then sequence (i.e., visual contingency statement) for breakfast. I showed all visuals to Sayaka and modified them as necessary based on her input before laminating them for durability. Each visual support is described below.

Based on the family’s envisioned morning routine, I made a visual sequence of all subroutines in the morning routine. Included in the visual sequence was 2.5 in. × 2.5 in. pictures of: wash face, eat breakfast, brush teeth, put on pants and shirts, put on socks and shoes, put on outerwear, and leave home. These pictures were aligned horizontally in one row.
For subroutines comprised of multiple steps that the children had not learned to perform independently (e.g., washing face, brushing teeth, getting dressed), I created visual sequences of task steps. I first conducted a task analysis and then created the visual supports that best illustrated the steps in each of the subroutines. For example, for washing hands, the visual sequence of steps was turn on tap, wash face, turn off tap, and dry face. At the end of each visual sequence of steps, a space was reserved to mount a picture chosen from the reinforcer choice board. All pictures of these steps were 2 in. × 2 in. and aligned horizontally in one row. Velcro was attached at the back of the strips for the wash face and brush teeth subroutines. The purpose of the Velcro was to attach the visual sequence to the mirror in the bathroom so that Sayaka could easily bring the children’s attention to the steps in washing face and brushing teeth.

The reinforcer choice board was created for each child so that they could communicate their desired item to work for during the routine. The parents and the research team identified seven reinforcers for Shun and 12 reinforcers for Rika during the functional assessment and during the meeting to review the behaviour support plan. I made a letter sized choice board with 2.5 in. × 2.5 in. pictures of the reinforcers for each child. Each of the pictures had Velcro on the back so that the children could remove a picture of a preferred item or activity and give it to their mother when asked to choose a reinforcer, and so that mother could mount the picture at the end of a visual sequence of steps in a subroutine. Doing so converted the visual sequence into a visual contingency.

First-then visual sequences also were developed to further motivate engagement in routine-related behaviour. These visuals were used during breakfast. Two boxes and an arrow between the boxes were drawn on a half of a letter-sized sheet of paper. A picture of child expected behaviour was in the left box, and a picture of the child’s preferred item or activity was
in the right box. For instance, a visual of the child eating food was in the left box and a visual of a computer was in the right box to illustrate the positive contingency statement, “First you eat, then you can watch a show” (for both children). Other first-then visuals were: “First you eat, then you get a cheese stick” (for daughter) and “First you finish food, then you get a bottle of yogurt drink” (both children).

**PBS plan and implementation checklist.** I provided the family with a written PBS plan that included the family’s vision of a successful morning routine (i.e., the primary goal of the behaviour support effort), a summary of the behaviours of concern and functional assessment results, and a description of the behaviour support strategies agreed upon during plan development. The PBS plan was in English for Mark and in Japanese for Sayaka. I also condensed the PBS plan into a 2-page implementation checklist that included plan strategies, a brief behavioural rating scale and a brief 5-item social validity questionnaire. The checklist enabled Sayaka to self-evaluate her use of each strategy using a 5 point Likert scale (1 = strategy not in place; 5 = strategy fully in place), and rate the level of the children’s problem behaviour (0, 1, 2-5, 6-10, more than 10) and the social validity of the plan (1 = strongly disagree; 5 = strongly agree) after each morning routine session. Following each morning routine observation during the intervention phase, Sayaka sent me a completed implementation checklist.

**Distal initial training.** Prior to the first video observation of the intervention phase, the parents and I had two initial training sessions over Skype for Business to give the parents an overview of how each strategy would look in practice. I reviewed the implementation checklist and PBS plan with the parents, describing each strategy and then modeling each strategy with my supervisor or by using a stuffed animal or doll. I also showed them video clips of other Japanese parents or the research team implementing PBS strategies, and role-played with the mother the
implementation of FCT, followed by discussion and feedback. I also discussed common mistakes observed in parents’ use of PBS strategies based on my work experience, and presented examples and nonexamples of strategy use. The videos used in the training were shared with the parents so that they could access them at any time. The total time spent in distal initial training was 4 hours.

**Distal coaching.** I provided training and support to the parent(s) via Skype for Business at a time that was convenient for the family that was not during the morning routine. The parent(s) started implementing the behaviour support strategies approximately 10 days after the development and finalization of the PBS plan. Identical to the baseline phase, Sayaka video recorded the morning routine once a week based on her availability.

Each distal coaching session was organized within 1-2 days of Sayaka uploading a video recorded observation of the routine. Prior to each coaching session, I observed the video using a morning routine training data sheet (see Appendix D). The training data sheet was used to record: (a) level of assistance required for Shun to complete each subroutine (i.e., little assistance, moderate assistance, much assistance); (b) estimated frequency of each child’s problem behaviour (i.e., *no occurrence, 1 occurrence, 2-5 occurrences, 5-10 occurrences, or more than 10 occurrences*); (c) implementation fidelity for each PBS strategy (i.e., not used, used, used well); (d) observed stress level of Sayaka; (i.e., low, moderate, high); and (e) my subjective perception of improvement in the routine (i.e., little, moderate, a lot). The training data sheet was used to guide my coaching sessions and help me understand: (a) what strategies were difficult for Sayaka to implement with fidelity; (b) the extent to which the PBS strategies were effective in decreasing the children’s problem behaviour and increasing their positive engagement in the routine; and (c) if modification to the plan was needed.
To further enhance my training, I developed an intervention fidelity checklist adapted from Fettig et al. (2016) that defined my training and support activities with Sayaka during a telepractice session. In addition to the model suggested by Fettig et al. (2016), I used the 3-D method of active parent training (Forgatch & Rodriguez, 2016). The 3-D method of active parent training (i.e., Demonstrate, Debrief, Discriminate) is a component of Parent Management Training – Oregon (PMTO®). In this method, a trainer demonstrates the right way and wrong way to implement a parenting strategy (e.g., effective requests, descriptive praise), and asks the parent to describe the aspects of the demonstration that were correct or incorrect. Parents then role play the strategy the right way and also the wrong say and discuss the difference. From the video recorded observations, I made notes of common errors that Sayaka made in implementing strategies in the PBS plan. During the next distal coaching session, I employed the 3-D method of active parent training to teach Sayaka to discriminate between correct and incorrect implementation of plan strategies, and to understand and value implementing the strategies with fidelity. The intervention fidelity checklist that I used to guide distal coaching sessions is presented in Table 2.8.
Table 2. 8

*Intervention Checklist to Guide Distal Coaching Sessions*

- Researcher ensures quality of video and audio for meeting via Skype for Business
- Researcher facilitates discussion about mother’s self-evaluation of PBS plan implementation using implementation checklist. Mother reflects on overall experience in implementation of strategies and observed outcomes
- Mother reflects on strategies successfully used and outcomes of strategy use
- Mother reflects on obstacles experienced during implementation of PBS strategies and shares her thoughts on strategies that were not effective.
- Researcher provides overall impression of morning routine and parent implementation of PBS plan.
- Researcher provides feedback on strategies used successfully and positive outcomes observed
- Researcher provides corrective feedback on strategies not used or used incorrectly
- Researcher models correct strategy use for strategies not used or used incorrectly
- Researcher and mother role-play strategies that were not used or used incorrectly.
- Researcher provides 3-D method of parent training, in which parent discriminates right way and wrong way in use of not used or incorrectly used strategies.
- Researcher and family discuss ways to improve plan implementation.
- If needed, researcher shows videos of a morning routine session in which mother implemented PBS strategies to further aid in parent training.
- Researcher provides opportunity for mother to ask questions or request additional materials.

Baseline video recorded observations and discussion with mother suggested that Shun was more likely to engage in major problem behaviour (e.g., high intensity crying, screaming) during brushing teeth and dressing subroutines; therefore, the first three subroutines (i.e., waking up, washing face, and eating breakfast) were initially targeted for intervention and support. During this initial stage of training, Sayaka was encouraged to generalize the use of strategies to the non-targeted subroutines when she felt confident to do so. After three coaching sessions focused on the first three subroutines, Sayaka and I made a collaborative decision to start targeting the next three subroutines. This decision was made when: (a) Sayaka informed me that the first three routines were more manageable for her; (b) Sayaka communicated her desire to
work on the brushing teeth and dressing subroutines; and (c) I felt that her use of behaviour support strategies in the first three routines were sufficiently satisfactory to move on to the next three more challenging subroutines. Sayaka and I started working on the last three subroutines after the third intervention observation.

Due to the complexity of the morning routine and multicomponent nature of the PBS plan, I introduced no more than three behaviour support strategies per training session. My initial focus was for Sayaka to use the setting event, antecedent, and consequence strategies that would set the stage for, prevent and reinforce the children’s desired behaviour and alternative replacement behaviour. Teaching strategies and consequence strategies for minor problem behaviour then were introduced, followed by consequence strategies for major problem behaviour.

Each distal coaching session lasted 1.5-3 hrs. During a session, I used the intervention checklist to ensure the fidelity of my adherence to the coaching protocol. To establish and deepen rapport, I took time to listen to Sayaka’s concerns in raising her children and offered advice within my range of knowledge or directed her to appropriate resources. For the modeling procedure, I used the stuffed animal and doll or video clips from initial distal training sessions. Sayaka role-played the skills with an imaginary child or with her child(ren) if one or both of them were at home. Throughout each coaching session, I actively praised Sayaka for correct or improved use of strategies in an attempt to reinforce her effective use of them. I also provided opportunities for Sayaka to ask questions, suggest activities involved in the training, and discuss modifications of the PBS plan to improve its acceptability and effectiveness.

Upon introduction of the brushing teeth and dressing subroutines, I introduced Sayaka to the concept of coercive and constructive processes of interaction (Lucyshyn et al., 2004). First, I
explained the four-steps in a coercive sequence and in a constructive sequence of interaction using a few examples of parent-child interaction observed during the video observation. I also reviewed a diagram of the escape-driven coercive process that was operating with Shun in the morning routine, and the constructive process that we were building through the use of PBS strategies. Then, to further aid her understanding, I used the metaphor of parenting as a form of dance in which it is important for the parent to lead to ensure healthy child development (i.e., in a coercive process “Shun is leading the dance”; in a constructive process “Sayaka is leading the dance”). I also discussed with Sayaka the automaticity of coercive processes when they have been present in parent-child interaction for months and years, and asked her to identify coercive and constructive processes that she recently experienced. The notion of four-step coercive and constructive processes, and the metaphor of the dance were used throughout the rest of coaching sessions to help Sayaka understand the concept of negative reinforcement operating when Sayaka withdrew a request/demand, and the concept of positive reinforcement operating when Sayaka provided praise and a small treat to Shun and Rika when they complied to her requests and/or cooperated with her physical assistance to complete steps in the subroutines of the morning routine.

Two modifications to implementation support were made following the sixth intervention observation. In an attempt to improve children’s behaviour quicker, I suggested to Sayaka that we increase the frequency of distal coaching to twice a week. This was approved by her. In addition, as distal coaching sessions progressed, I identified several behaviour support strategies with which Sayaka consistently struggled. To overcome these implementation difficulties, I created a cautions checklist that included common errors to avoid and behaviour support strategies to implement more often and with fidelity. The cautions checklist is presented in Table
2.9. During the last two distal coaching sessions, I reviewed the cautions checklist with Sayaka, used the 3-D method of active parent training to help her overcome common errors in implementation, and requested that she review the checklist prior to supporting the children in the morning routine.

Table 2. 9

_Cautions Checklist for Morning Routine_

**Cautions for Setting Stage for Success**
- Make sure your child is standing on stool or in front of the sink when he or she is brushing teeth
- Provide support to one child at a time, except during breakfast
- During breakfast, do not leave table unless absolutely necessary
- Before you need to leave table, prompt child to ask for a show and then play the show; or prompt him to take a bite of food and then play show
- When you assist Shun, provide Rika with toys that will occupy her.

**Caution for Preventing Problem Behaviour**
- Give your child an instruction only when you are ready to assist child. Do not make a request and start doing something else for child
- Do not make requests/demands to your child while you are assisting the other child
- Do not make a request unless materials used for the task is next to child (e.g., asking Shun to put on socks when he is at entrance hallway and socks are in bedroom)
- Make sure all of your requests state the specific, one step behaviour you expect child to do (e.g., _put on socks_ instead of _get dressed_)

**Cautions for Teaching Desirable Skills**
- Provide assistance proactively; that is, before child non-complies or makes a mistake in doing a task step.

**Cautions for Weakening Problem Behaviour**
- Do not stop giving reinforcers after child does expected behaviour the first time. Continue using reinforcers until child does expected behaviour consistently. Fade reinforcers gradually.
- Do not provide what child wants after minor problem behaviour (e.g., break, an item or activity, attention). Rather, prompt child to ask for what he/she wants, then honour request.
- Do not keep repeating request to child when child does not respond to first request or engages in problem behaviour after the first request. Instead, physically assist child to complete task after one instance of non-compliance or other problem behaviour.
- Do not provide a treat or what he wants after major problem behaviour.
- Do not engage in soothing, persuading, or other forms of positive interaction after major problem behaviour. Remain calm; when child calms down, redirect to task/activity.
Training and support to father. Based on family ecology results and the first goodness of fit survey, the children’s father, Mark, was provided with training and support in mindfulness practices and a set of behaviour support strategies largely drawn from the PBS plan. Dr. Lucyshyn led weekly, 1-hour meetings with Mark which I also attended. Mindfulness practices have been documented to reduce stress and anxiety among parents of children with autism and other developmental disabilities (Benn, Akiva, Arel, & Roeser, 2012; Dykens, Fisher, Taylor, Lambert, & Miodrag, 2014; Singh et al., 2019). According to Bishop et al. (2004), mindfulness practices have two components: (a) self-regulation of attention to focus on current direct experience; and (b) orientation of self to one’s current experience with curiosity in a non-judgemental manner. During the first training and support session with Mark, Dr. Lucyshyn taught Mark three meditation practices adapted from Singh (2014): a sitting meditation, an informal walking meditation, and a compassionate abiding meditation. The sitting meditation involved sitting in a chair with one’s back straight and feet on the floor and repeatedly counting one’s breathes to a count of 10, with eyes open but gazing down at a 45-degree angle. The walking mediation involved walking at a natural pace with a natural gait while attending to the immediate visual, auditory and/or olfactory stimuli that passed by as you walked. The compassionate abiding meditation involved Mark noticing feelings of irritation or anger toward his children, focusing one’s attention to his breathing, acknowledging the feelings without judgement, and continuing the focus on breathing until the feelings dissipate.

Training and support also were provided to Mark in the implementation of behaviour support strategies. To support Mark in his use of PBS strategies, an implementation checklist was designed that included a subset of strategies from the PBS plan. Table 2.10 presents the implementation checklist for Mark. Additionally, two strategies were added that were relevant to
Mark’s time with the children in the evening and on the weekend. These were: (a) noncontingent delivery of attention to children every few minutes; and (b) noncontingent delivery of small treats to child(ren) when mother is at home but not available. The first strategy was added because both children engaged in attention-motivated problem behaviour in the evening and on the weekend when the parents were occupied with other tasks or activities. The second strategy was added because Mark reported that Rika often engaged in problem behaviour when he was responsible for her care while Sayaka was occupied with other tasks in the home.

Table 2. 10

*Implementation Checklist for Mark*

**Lifestyle/Ecological Strategies**

- Mindfulness: (a) sitting meditation; (b) walking meditation; (c) compassion abiding meditation

**Prevention Strategies**

- Use positive contingency statement (e.g., *First you [task the child has to do], then you get [treat or preferred item or activity]*)
- Provide safety signal to describe what children need to tolerate (e.g., *Dad will be back in one minute*)
- Use effective requests: (a) be next to child; (b) get child’s attention; (c) use clear, one step requests that explicitly tell child what to do; and (d) use positive tone of voice
- Noncontingently deliver attention to children every few minutes. Gradually increase the duration by 1-3 minutes as children learn to tolerate an absence of attention
- Noncontingently deliver small treats to children when mother is at home.

**Teaching Strategies**

- Use safety signals to build endurance
- Use functional communication training to teach children to use language: (a) say or sign, break/help; (b) say or sign want or what he or she wants; or (c) say *Kocchi* [trans. *Come here*] or use physical communication (e.g., pulling arm)

**Consequence Strategies**

- Provide praise and engage briefly in child’s activity when children play independently while you have been busy with another task
- When children request for what they want, immediately honor the request
- If children engage in minor problem behaviour, (a) actively ignore the problem behaviour and redirect back to an activity; (b) prompt them to use language then honor the request; (c) once language is firm, use safety signal (see teaching strategy)
Each parent training session with Mark began with 5 min. of sitting meditation. This was followed by a discussion of the mindfulness practices that Mark engaged in during the week and the effects these practices appeared to have on Mark in his daily life and with his children. Mark and Dr. Lucyshyn then discussed Mark’s use of PBS strategies that he agreed to implement during the week. Initially, Mark was introduced to three PBS strategies. Across subsequent meetings, this was increased to six strategies. During these meetings, Dr. Lucyshyn offered words of encouragement in response to Mark’s report of PBS strategies that he used, and the positive effects he perceived the strategies to have with his children. At the end of the meeting, Dr. Lucyshyn and Mark agreed on 2-3 implementation goals to work on before the next meeting.

**Support for babysitter.** Training was provided to Rika’s babysitter as well. In addition to the parents’ concerns identified during the family ecology assessment, this training was particularly important for the delivery of distal coaching sessions. I created a plan comprised of strategies the babysitter could use when caring for Rika in the presence of Sayaka and a rationale for each of the strategies. Strategies were based on functional assessment results. I then had a 15 min meeting with Sayaka over Skype for Business to review the suggested strategies. After receiving approval from Sayaka, I sent the document to the babysitter. Strategies included: (a) noncontingent delivery of small treats and attention; (b) use of special toys reserved for use by the babysitter; and (c) use of embedded natural reinforcers (e.g., preferred toys and activities). I then talked to the babysitter over the phone to describe and discuss the plan, the rationales, and examples of each strategy. The discussion took approximately 30 min. During distal coaching sessions with Sayaka, additional training and support were provided to the babysitter as needed.

**Support for issues related to computer use.** Results of the second administration of the goodness of fit survey revealed a new parental concern in regard to the children’s increased
demand to use the family laptop computer to watch a show. This appeared to be a side effect of the mother’s implementation of the PBS plan, and so a meeting over Skype for Business was scheduled with the parents to address the issue. Dr. Lucyshyn led the meeting and I was present to provide input. During the discussion, the parents communicated that they saw the use of the laptop computer to watch a show during the morning routine as a necessary strategy to keep the children at the breakfast table. Moreover, Sayaka noted an unexpected benefit in letting the children watch shows, as Rika had begun to imitate scenes in the shows and was being exposed to more Japanese language. The issue arose when the children wanted to watch a show outside of the routine and engaged in problem behaviour and/or pulled out or turned off the router when the parents did not allow them to do so. This problem had begun to affect Mark’s work when he had to work at home. Dr. Lucyshyn engaged in a problem-solving discussion with the parents guided by the structure of a CPD and four categories of potential strategies (i.e., setting event, preventive, teaching and consequent strategies; O’Neill et al., 2015). Based on this discussion, Dr. Lucyshyn and the parents generated a CPD and a multicomponent PBS plan designed to solve the problem. Figure 2.3 presents the CPD generated during the meeting. Table 2.11 presents the PBS strategies agreed upon during the meeting.
**Figure 2.3.** Competing behavioural pathways diagram for computer use.

- **Setting Events:**
  - Only one laptop
  - Shun using laptop during morning routine (increases value of laptop at other times during day)

- **Antecedent Triggers:**
  - Laptop available and in view
  - Router and plug for router in view
  - Parent using laptop

- **Problem Behaviour:**
  - Demand and/or grab laptop
  - Pull out router or turns off router

- **Maintaining Consequence:**
  - Get access to internet (e.g., show)
  - Negative attention

- **Desired Behaviour:**
  - Play independently or play cooperatively with sibling

- **Maintaining Consequence:**
  - Praise and snack item

- **Alternative Replacement Behaviour:**
  - Ask to use laptop
Table 2.11

*Positive Behaviour Support Plan for Computer Use*

**Setting event strategies**
Hide power bar
Use outlet that the children are not aware of so that they will not find it and pull out plug
Sayaka uses I-Pad so that children can use laptop
Mark uses his work tablet or cellphone so that child can use laptop

**Antecedent strategies**
1. Schedule time in which I-Pad or laptop can be used by children, up to 2 hours per day
2. Use a visual cue that informs children when laptop or I-Pad is available and unavailable for their use (green check next to picture of laptop/I-Pad, vs red universal no symbol over picture of laptop/I-Pad)
3. When child is using device, set timer for up to one hour at a time
4. At 5 minute and 1 minute, give advanced warning that use will stop (e.g., “I-Pad is all done in 1 minute”)

**Teaching strategies**
1. Teach children to use language (sign, words, picture) to ask to use laptop or I-Pad.
2. For icon/picture of laptop or I-Pad, put a picture on wall at eye level for child’s easy access and use to communicate.
3. Teach concept of “later” in day, and of “next day” (tomorrow) (e.g., laptop is available later today). Use visual of time of day and next day to assist in teaching these concepts.

**Consequence strategies**
1. Provide praise and small treat when children are playing independently or cooperatively while parents are busy.
2. If child asks for laptop or I-Pad (e.g., says, *misete* [trans. “Show me”) or shows a picture), honour request.
3. If child engages in minor problem behaviour, prompt child to ask for laptop.
4. If child engages in major problem behaviour, child loses access to laptop and I-Pad for rest of day; inform child that he/she will get access again the next day.

**Chapter 3: Results**

Four dependent variables were measured during the study: (a) child problem behaviour; (b) child positive engagement in morning routine; (c) family index of goodness of fit; and (d) family rating of social validity. Consistent with Lucyshyn et al. (1997), the research team defined what constituted a socially valid result in regard to improvements in child behaviour and participation in the morning routine. A socially valid result was defined as the documentation of three outcomes: (a) problem behaviour less than 10% of intervals; (b) positive engagement
approximately 80% or more of intervals; and (c) high parent ratings of social validity by the conclusion of the intervention phase. Results for each dependent variable are described below. Costs associated with distal coaching in comparison to in-vivo training for the family also are described.

3.1 Shun’s Problem Behaviour and Positive Engagement in Morning Routine

Figure 3.1 presents the percentage of intervals of Shun’s problem behaviour and positive engagement in the morning routine. During baseline, Shun exhibited consistently high levels of problem behaviour with an increasing trend. The average percentage of intervals of problem behaviour was 78% (range, 60.8-82.2%). During intervention, this decreased to an average of 37.3% (range, 25-47.2) with a decreasing trend. During baseline, Shun showed consistently low levels of positive engagement in the routine with a decreasing trend. The average percentage of intervals of positive engagement was 13.9% (range, 9.1-17.55%). During intervention, this increased to an average of 59.3% (range, 47.1-68.6%) with an increasing trend. Percentage of nonoverlapping data (PND) for both problem behaviour and positive engagement was 100%.
Figure 3.1. Percentage of intervals of child problem behaviour and of positive engagement across baseline and intervention phases in the morning routine.

3.2 Goodness of Fit

The PBS plan was viewed as a good fit by the family when each parent’s average index across the 18 items was 4.0 or more out of 5.0. Following initial PBS plan development, Sayaka’s average goodness of fit index was 3.2. This increased to an average index of 4.4 (out of 17 questions, as one question was not applicable) when the questionnaire was administered again after the third intervention observation session. At the conclusion of the intervention phase, Sayaka’s average goodness of fit index further increased to 4.7. Following initial plan design, Mark’s average goodness of fit index was 3.8. This increased to 4.7 (out of 17 questions, as one question was not applicable) when the questionnaire was administered again.
after the third intervention observation session. At the conclusion of the intervention phase, Mark’s average goodness of fit index maintained at 4.7.

3.3 Social Validity

For the telepractice approach to FCPBS to be socially valid from the family’s point of view, an average social validity rating across the 10 items of 4.0 or better out of 5 was set as the criteria for each parent. The first social validity questionnaire was administered after the third intervention observation session. Sayaka’s average social validity ratings was 4.7. Her score slightly decreased to 4.5 at the end of intervention phase. Mark’s average social validity rating was 4.8. His score also slightly decreased to 4.5 at the end of the intervention phase. Although these scores indicated that the family, overall, viewed the telepractice approach to FCPBS to be socially valid with regard to goals, procedures, and outcomes, the slight decrease in rating at the end of the intervention phase was due to one item with a lower rating by the father (a score of 3): “The support effort has caused some unanticipated problems in our family.” The father’s comment written below this item indicated that the unanticipated problem was the children’s demands to watch a show on the laptop computer outside of the target morning routine.

3.4 Costs Associated with Distal Coaching vs. In-Vivo Coaching

To compare the cost of parent support delivered via distal coaching with in-vivo delivery, costs associated with Sayaka’s implementation of the PBS plan were calculated. To obtain costs associated with distal coaching, I calculated the sum of time spent in the following activities: (a) initial meeting to discuss CPD and proposed PBS strategies (1.5 hrs.); (b) initial training session (4 hrs.); (c) observations of video recorded morning routine sessions to inform coaching sessions (approximately 5.5 hrs. across seven observations); and (d) distal coaching sessions (17.5 hrs. across nine distal coaching sessions). The total number of hours engaged in distal coaching was
approximately 28.5 hrs. The hourly wage of behaviour consultants as noted in the fee guidelines of the B.C. Ministry of Children and Family Development is $70.00 to $100.00 CAD (Ministry of Children and Family Development, 2017). Based on this range of hourly wages, the family would pay a behaviour consultant from a local agency between $1995.00 CAD and $2850.00 CAD if they provided the distal coaching services that I implemented with the family. In comparison, if the family received in vivo training and support, then the number of hours the family would need to pay for would be the sum of the time spent in these activities: (a) initial meeting to discuss CPD and PBS strategies (1.5 hrs.); (b) initial training session (4 hrs.), (c) in vivo coaching sessions (17.5 hrs. across nine sessions; and (c) round trip travel by car to family’s home and return to agency office (approximately 13.5 hrs. across nine sessions). The total number of hours engaged in in vivo coaching would be approximately 36.5 hrs. Based on the same range of hourly wages, the family would pay the behaviour consultant between $2555.00 CAD and $3650 CAD for in vivo coaching. The comparison suggests that the family would have saved between $560.00 and $800.00 CAD. This amounts to a 22% saving for the hourly wage of $70.00 and of $100.00 CAD per hour.
Chapter 4. Discussion

The present study evaluated the following research questions: (a) is there a functional relation between FCPBS delivered to a Japanese parent of a child with ASD via telepractice and a decrease in child problem behaviour and an increase in child positive engagement in a morning routine; and (b) What is the parents’ view of the goodness of fit and social validity of the FCPBS approach? In this chapter, I first provide a summary and interpretation of the results in light of the research questions asked and research design employed. I then discuss the findings in terms of: (a) their relation to the extant literature; (c) unique contribution to the literature; (d) implications for practice; (e) limitations; and (f) directions for future research.

4.1 Summary and Interpretation of Results

According to the rules of evidence in single case design research, a functional relation requires documentation of a consistent pattern of changes in dependent variables between research conditions across three different points in time (Barton, Meadan-Kaplansky, & Ledford, 2018), while a basic effect requires such changes at one point in time (Lucyshyn et al., 2015). Due to the study’s empirical case design (i.e., A-B), this study was not able to document a functional relation between implementation of the telepractice approach to FCPBS with a Japanese mother of a child with ASD and improvements in the child’s problem behaviour and positive engagement in the morning routine. However, visual analysis of the graph using single case design rules of evidence documents a basic effect between the telepractice approach and improvements in child problem behaviour and positive engagement in the routine. The child’s problem behaviour and positive engagement in the routine improved immediately after the introduction of the PBS plan. Improvements continued with some variability until the conclusion of the intervention phase. Overall, Shun’s problem behaviour decreased from a high level (i.e.,
average of 78%) to a moderate level (i.e., average of 37.3%) with no overlapping data between baseline and intervention. This represented a 52.2% improvement and 2-fold decrease compared to baseline levels. Likewise, Shun’s positive engagement in the morning routine increased from a low level (i.e., average of 13.9%) to a moderately high level (i.e., average of 59.3%) also with no overlapping data between baseline and intervention. This represented a 76.6% improvement and 4-fold increase in positive engagement. These results indicate that FCPBS delivered via telepractice was associated with a moderate decreased in Shun’ problem behaviour and an increase in his positive engagement in the morning routine.

To answer the second set of questions about the parents’ view of FCPBS delivered via telepractice, results of the goodness of fit survey and social validity questionnaire are examined. Over the course of the study, the goodness of fit survey was administered at three points in time: (a) following the development of PBS plan; (b) after the third video observation of the routine; and (c) at the conclusion of the intervention phase. Sayaka and Mark indexed the contextual fit of the behaviour support plan at an average of 3.2 and 3.8 respectively at the beginning of the intervention phase. This indicated that the initial design of the plan was not a sufficiently good fit with the family. As a result, I engaged in a dialogue with the family to understand the source of the poor fit, and then augmented the behaviour support plan to address the deficits in contextual fit that the family brought to my attention. Doing so was associated with an improvement in the parents’ perception of the plan’s goodness of fit at the midpoint of the intervention phase, with an index by Sayaka and Mark of 4.4 and 4.7 respectively. Further improvement at the end of the intervention phase was evidenced for Sayaka with an index of 4.7, while Mark maintained an index of 4.7. High ratings of social validity across two administrations of the questionnaire (4.7 and 4.5 for Sayaka, and 4.8 and 4.5 for Mark) suggest that both parents regarded the goals,
procedures, and outcomes of FCPBS delivered via telepractice as important and acceptable to the family. Lastly, an informal cost analysis indicated an overall 22% savings in cost when comparing distal coaching with the family with the projected costs of *in vivo* coaching. However, since the family only lived 0.75 hrs. from Vancouver, BC, the saving would be greater as families who received distal coaching lived increasingly further from the urban areas where most certified behaviour consultant provide services.

### 4.2 Relation to Existing Literature

Consistent with other literature (e.g., Suess et al., 2014; Simacek et al., 2017), this study suggests that telepractice can be used to train parents to implement behavioural interventions with children with ASD in home settings. Fettig et al. (2016) documented a functional relation between distal coaching and an early intervention provider’s implementation of a function-based, multicomponent behaviour support plan designed to improve the behaviour of a 2.5-year-old girl with ASD during the provider’s home visits. This study lends support to the proposition that adult caregivers can be trained via telepractice to implement multicomponent behaviour support plans that include setting event, antecedent, teaching, and consequence strategies even in the absence of trained professionals on-site. The study extended Fettig et al.’s research by showing that a mother of a child with ASD can implement a function-based, multicomponent behaviour support plan that included a more complex set of PBS strategies to make meaningful progress toward the family’s vision of a successful morning routine with her son and daughter, both of whom have an ASD diagnosis.

The basic effect documented in this study partly replicate the work of Clark et al. (1999). They used a single subject withdrawal design to document the effects of FCPBS implemented by the mother of a 10-year-old son with Asperger syndrome during a morning routine when *in vivo*
assistance was provided. The morning routine consisted of five tasks: “getting out of bed when instructed, using the bathroom, getting dressed, brushing his hair, and coming out to the breakfast area fully dressed” (p. 235). Behavior support strategies included a visual schedule of the routine, modification of clothing materials to ease the dressing task, a choice chart to choose a reinforcer, and contingent positive reinforcement upon completing the steps of the routine.

The study’s interim results are similar to the results of a family of Chinese heritage raising a son with Asperger syndrome who participated in a longitudinal study of FCPBS (Lucyshyn et al., 2016). One of the family’s target settings was a morning routine. Strategies taught to Sayaka closely resembled the multicomponent PBS plan implemented by the mother of the son with Asperger Syndrome. Both plans were comprised of several setting event, antecedent, teaching, and consequence strategies. Forty-nine hours of in vivo training and support were required before the mother achieved socially valid levels of improvement in child behaviour and routine participation, as documented across eight video recorded observation sessions. These parallel results suggest the challenging nature of supporting a parent to implement a multicomponent PBS plan in a morning routine with a relatively complex set of task requirements.

In a recent study by Joseph, Strain, and Dunlap (2019), a single case withdrawal design was employed to document the effectiveness of Prevent Teach Reinforce for Families, a manualized form of FCPBS (Dunlap et al., 2017). Three families of young children with problem behaviour participated. Settings were problematic family routines in the home. Results documented a functional relation and high ratings of social validity by each family. However, problem behaviour for one of the three children never achieved low levels, averaging 30.1% of intervals during the first intervention phase and approximately 34.5% of intervals during
reintroduction of the intervention. Nevertheless, the social validity rating of the family was 4.8 on a 5-point scale, indicating that they viewed the goals, procedures and outcomes as important and acceptable. The moderate level of improvement in the child’s behaviour combined with the parent’s high social validity rating, similar to interim results of the current study, suggest that some parents may view a moderate level of improvement as important and acceptable because their child’s problem behaviour is better than baseline levels even though they still experience problem behaviour in one-quarter to one-third of the routine. Potential threats to maintenance of behaviour change given this level of remaining problem behaviour suggest the importance of continuing to provide parent training and support in a target routine until the child’s behaviour reaches socially valid levels of change as defined by Lucyshyn et al. (1997); that is, problem behaviour less than 10%, routine participation approximately 80%, and parent social validity ratings 4.0 or higher on a 5-point scale.)

4.3 Unique Contributions

This is the first study that represents an attempt to deliver FCPBS though a telepractice method of service delivery. Although interim results are not complete due to the mother’s summer visit to Japan with her two children, and the need to defend my thesis before their return to BC, the preliminary findings are promising. In addition to a 2-fold reduction in Shun’s problem behaviour and 4-fold increase in his positive engagement in the morning routine, his parents rated the behaviour support plan as having a good fit with the routine and the larger ecology of the family, and rated highly the social validity of the telepractice approach to FCPBS. To be sure, this contribution to the literature remains modest at best due to the non-experimental nature of the A-B design and the need to continue to assist the family in making further progress in the morning routine towards a socially valid outcome as defined by Lucyshyn et al. (1997).
Another unique contribution is the strong therapeutic alliance I formed with Sayaka that focused explicitly on transforming coercive processes of parent-child interaction that were deeply ingrained in the morning routine into constructive processes of interaction between Sayaka and her children during the intervention phase. This focus on transforming coercive into constructive processes is a unique feature of FCPBS (Lucyshyn et al., 2015). A strong therapeutic alliance between parents and service providers (i.e., therapists) is associated with improved parenting practices (Kazdin & Whitley, 2006). The strong alliance is particularly important in FCPBS given its focus on ameliorating long histories of coercive processes operating in the lives of families of children with ASD and other developmental disabilities. Prior to the intervention, Sayaka was engaging in several common parenting practices that were inadvertently reinforcing her children’s problem behaviour and either putting on extinction or punishing their positive behaviour (e.g., not attending to the children when they were behaving well; correcting every attempt by Shun to verbally communicate his wants and needs). Therefore, there was a need for me to respectfully engage in a conversation with Sayaka about the coercive processes she was engaged in with her children and the need to recognize these processes and use parenting practices that replace them with constructive processes of interaction in the morning routine. Despite engaging in such a difficult conversation with Sayaka, she rated highly (i.e., 5 on a scale of 1-5) the following social validity questionnaire item: the person(s) providing technical assistance has shown respect for our family’s values and beliefs.” As all the intervention phase procedures were conducted through telepractice, the mother’s rating suggests that a therapeutic alliance focused on transforming coercive into constructive processes in valued but problematic family routines can be established over telepractice.
This is the first study in which the mother who implemented the PBS plan spoke in Japanese with her children during the target routine and with the interventionist (Serina Ando) during coaching sessions. This aspect of the study offers three unique contributions to the literature. First, because my mother tongue also is Japanese, language barriers related to the parent’s effective implementation of PBS strategies were identified during my review of the video recorded observation sessions. One of the most difficult challenges Sayaka faced was the use of effective requests/demands. Use of explicit requests that specifically tell a child what to do is considered an important strategy to teach parents during behavioural parent training (Dunlap et al., 2017). However, a study conducted in Japan with 95 mothers of children 2.5- to 3.5-years-old showed that two-thirds of the mothers expected their children to understand their intention regardless of the words they used (Ujiie, 1997). Understanding another person’s intention without explicit use of words is related to Omoiyari, an intuitive understanding of the others’ intention, which is highly valued in Japanese society to maintain harmonious relationship (Travis, 1998). Understanding another person’s intention is considered to be somewhat effortless in Japan (Ujiie, 1997). As Doi (1986) noted, it is Japanese listeners who have to figure out the intention of others based on the speaker’s use of language, while Americans expect speakers to explicitly communicate their intentions. Understanding another person’s intention is particularly difficult for individuals with ASD as they have deficits in theory of mind (Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997). Therefore, there is a strong need for practitioners to actively teach Japanese parents of children with ASD to use effective (i.e., explicit) requests.

Second, during the intervention phase it also became clear that Sayaka was having difficulty with the implementation of consequence strategy in response to the children’s escape-motivated problem behaviour. Mothers of children with developmental disabilities tend to be
compassionate (Hubert, 2011) and attentive to their children’s needs (Conti, 2015); therefore, it is logical to consider that mothers may experience difficulty implementing a consequence strategy in which they do not allow a child to escape a difficult task, such as brushing teeth or getting dressed, after the child engages in problem behaviour. This may be particularly true for Japanese parents. Although many Japanese identify themselves as nonreligious, their culture is closely tied to Buddhism (Roemer, 2009). One characteristic of Buddhism is universal benevolence toward others, which is interpreted as being compassionate and wishing others to be well and content (King, 2005). Omoiyari is one form of benevolence. As noted by Lebra (1976), among the Japanese, “empathetic pity is easily, and sometimes compulsively, aroused at the sight of helpless or suffering people.” In addition to the escape-motivated coercive process operating in the morning routine, this may partly explain why Sayaka accepted Shun going to school in his pajamas as observed during baseline. During the intervention phase, Sayaka at first had difficulty implementing the escape-extinction procedure when Shun’s problem behaviour escalated after a parental demand and physical prompts to get dressed. In response to problem behaviour, Sayaka would give Shun a hug, soothe him, or provide a preferred item. During coaching sessions in which this implementation challenge was discussed, she reported that she felt sorry for him. To address this problem, Dr. Lucyshyn asked the mother’s permission to engage in a cognitive restructuring activity with her designed to help her gain a new and hopefully more helpful perspective (Edward, 1989). With Sayaka’s assent, he guided the mother through a brief covert visualization activity in which she could see the long-term consequences of giving into Shun’s problem behaviour. Following this activity, Sayaka began to show marked improvement in her ability to maintain requests and physical prompts in the presence of Shun’s escape-motivated problem behaviour.
Third, the study brought to light possible cultural barriers to the development of a sense of self efficacy by a Japanese mother. Self-efficacy is an important factor associated with parental well-being and use of positive parenting strategies (Coleman & Karraker, 1998). At the conclusion of the intervention phase, however, Sayaka had not yet developed a sense of self-efficacy. This may be illustrated by a conversation with her at the end of the study. I showed Sayaka a graph of the baseline and intervention phases and pointed out the improvement in Shun’s problem behaviour and positive engagement in the routine. I also praised her for the changes she effected in Shun’s behaviour. I told her that it was because of her that his problem behaviour decreased significantly. In response, she kept thanking me and attributing the improvements in Shun’s behaviour to me. Only after several conversational exchanges did she acknowledge her contributions to Shun’s gains, albeit in a doubtful tone of voice. One explanation for this could be a tendency among Japanese to attribute success to others (Endo & Meijer, 2004 as cited in Heine, 2008). Similarly, literature has documented that Japanese are less self-enhancing compared to Europeans and Americans (Norasakkunkit & Kalick, 2002).

4.4 Implications

The study offers three implications for practitioners in implementing a telepractice approach to FCPBS with families of children with ASD in general and Japanese families of children with ASD in particular. First, the study documented the acceptability and feasibility of FCPBS via telepractice to families of children with ASD in a valued home routine that is problematic due to child problem behaviour. For families living in distant locations, obtaining early intensive behaviour intervention services can be difficult because of: (a) the lack of qualified therapists available in the areas; and (b) the need for new therapists to be trained by a certified behaviour consultant, who may need to travel to the family’s home from urban areas.
Unfortunately, turnover rates for therapists in British Columbia are high as therapist positions are often used as a stepping stone for further advancement of the therapists’ career or due to financial hardship that may be associated with the business model. To illustrate, in British Columbia, therapists often are paid between $15.00-20.00 CAD an hour (Ministry of Children and Family Development, 2017) without getting paid for hours spent for traveling to each client’s home. Therefore, the practical issue may not warrant families to hire new therapists while hiring a consultant to train them. As parents are the implementers of FCPBS, all money spent for training will benefit children with ASD in the context of family life in the long-term. From this perspective, FCPBS via telepractice can be beneficial for families of children with ASD living far from urban areas.

In addition, carefully selected strategies taught through FCPBS delivered via distal coaching also can help families improve their child(ren)’s behaviour outside the target routine. During the distal coaching sessions, Sayaka shared her experience in using some of the PBS strategies on other occasions and observing improvement in her children’s behaviour. For instance, Sayaka reported that Shun ate non-preferred foods which he had always refused to eat after she used positive contingency statements and delivered contingent positive reinforcement. This shows that FCPBS can be used to improve non-target settings as well via telepractice. Practitioners living in urban areas should consider the option of providing FCPBS via telepractice if they get referrals from distant areas.

Among PBS strategies, certain strategies may be more effectively learned by parents if they practice the strategies with their child by engaging him or her in routine-related tasks, even at a time that the target routine is not occurring. In learning to implement whole task instruction and to respond effectively to Shun’s problem behaviour, Sayaka found it helpful when I
provided feedback to her as she implemented the strategies with her child(ren) outside the routine. I also noticed significant improvement in her use of behaviour support strategies after I provided telepractice coaching at a different time of day while she directly supported her children in subroutines of the morning routine. For example, Sayaka’s implementation of behaviour support strategies with Shun in the dressing subroutine greatly improved after I provided telepractice coaching in strategy use while she supported her son to remove his pajamas and put on his street clothes. Of particular importance was coaching Sayaka to use whole task instruction, to maintain demands and prompts to get dressed in the face of Shun’s escape-motivated problem behaviour, and to deliver praise and a tangible reinforcer when he complied to mother’s requests and cooperated with her physical assistance to get dressed. This suggests that real time distal coaching outside of the routine while the parent engages the child in routine-related tasks may increase the effectiveness and efficiency of telepractice FCPBS.

In a related point, the study also documented the complexity of a family’s morning routine. Depending on the family, a morning routine will be comprised of a number of subroutines each with its own level of complexity in terms of daily living skills that the child has to learn. At the very least, a morning routine requires a child to get up, use the toilet as necessary, eat breakfast, brush teeth, and get dressed. When practitioners work with families that wish to improve morning routines, it may require more time to achieve socially valid levels of improvement as defined by Lucyshyn et al. (1997). In addition to strategies focused on decreasing problem behaviour, parents need to teach a number of self-care skills. This may prove to be a challenging assignment for parents raising children with significant disabilities and poorly developed self-care skills. To meet this challenge, practitioners will need to teach parents to implement effective teaching strategies such as most-to-least prompting (McDonnell &
Ferguson, 1989) or whole task instruction (Collins, 2012) in the midst of the many responsibilities that they have in the orchestration of a successful morning routine.

A third implication reflects the insights gained when I supported Sayaka while she spoke in Japanese with her children in the morning routine, and we spoke together in Japanese during distal meetings and coaching sessions. As a person with Japanese as my native tongue, it was natural for me to work with Sayaka in Japanese. By doing so, I gained insights into potential cultural barriers for Japanese parents to master evidence-based parenting strategies. In particular, Japanese parents may have difficulty using effective requests due to culturally informed patterns of requesting that emphasize indirection. They also may have difficulty implementing consequence strategies that, contingent on problem behaviour, do not deliver functional reinforcers such as escape from a task or a preferred item or activity. The culturally informed practices of kindness and compassion that pervade traditional Japanese culture may dissuade parents from implementing effective consequence strategies with fidelity. If practitioners are to work with Japanese families, the findings of this study suggest that they pay close attention to the parents' use of effective requests to occasion their child’s desired behaviour and their use of consequence strategies to weaken their child’s problem behaviour. If parents prove to have difficulty in the use of these strategies, then a respectful dialogue about the possible cultural antecedents to these challenges, and a combination of explicit instruction with the parents and culturally sensitive cognitive restructuring activities may be necessary to overcome these cultural barriers to change in parenting practices. At the very least, these findings suggest that practitioners working with families of different cultural backgrounds need to be: (a) alert to potential culturally-informed barriers to parent adoption of evidence-based parenting strategies informed by behavioural science; and (b) culturally sensitive and respectful when seeking to
assist the family in overcoming these barriers to improvements in child behaviour and routine participation.

4.5 Limitations.

The study has six limitations. First, despite the documentation of a basic effect, the use of an A-B design does not allow me to infer a functional relation between FCPBS delivered to a Japanese mother of a child with ASD via telepractice and a decrease in challenging behaviour of the child in the morning routine as well as improvement in child participation in the routine. Although it is unlikely, it is logical to suggest that a maturation or history effect played a role as an alternative explanation of the results (Gast & Baekey, 2009). Anecdotal evidence that suggests otherwise may be seen in the last two video recorded observations during the intervention phase. During one observed morning routine session, Sayaka stopped using one antecedent strategy (i.e., visual schedule of tasks in the morning routine) before prompting him to go to the washroom and wash his face. The absence of this strategy was associated with Shun non-complying to her requests and prompts and a prolonged episode of problem behaviour, including physical resistance and negative vocalizations. Given this observation, during the next coaching session I explained to Sayaka the importance of continuing to use the visual schedule of the morning routine before starting the routine. I also asked the mother if she would be willing to practice its use during the coaching session, immediately prior to Shun being asked to go to the washroom to wash his face. Sayaka consented to do so and I coached her in the implementation of this strategy along with other strategies. The mother’s use of the visual schedule prior to prompting Shun to go to the washroom to wash his face was associated with Shun cooperatively engaging in each step of this subroutine.
During another video recorded observation, Sayaka was observed during the first half of the breakfast subroutine to have withdrawn the use of the laptop computer to allow the children to watch a show. Doing so, however, was associated with an increase in Shun’s problem behaviour. Sayaka then was observed reintroducing the laptop computer to the kitchen table and opening a show for the children to watch. Shun was then observed re-engaging in the breakfast subroutine and no longer engaging in problem behaviour. These within phase observations, which represent clinical examples of the withdrawal and reintroduction of the intervention, offer anecdotal evidence that Shun’s decrease in problem behaviour and increase in positive engagement in the morning routine from baseline to intervention are likely to be attributed to Sayaka’s implementation of PBS plan strategies. As this represents a clinical judgement rather than empirical documentation, the completion of the single case withdrawal design after the mother and her children return from Japan will allow me to examine whether or not a functional relation can be documented.

Second, although Shun’s level of problem behaviour and positive engagement improved from baseline to intervention and the trend of behaviour changed from deteriorating to improving across the phases, Shun’s behaviour in the morning routine did not achieve a socially valid level as defined by Lucyshyn et al. (1997). Although Sayaka and Mark rated highly the social validity of the goals, procedures and outcomes of the telepractice approach to FCPBS, video recorded observations of the morning routine indicated that there remains much room for improvement if the family is to achieve their vision of a calm morning routine in which the children cooperate with the mother’s guidance and support to achieve age-appropriate levels of development. To fully achieve this vision, when I continue the study with the family, I plan to further empower
Sayaka to implement the PBS plan with sufficient fidelity to reduce Shun’s problem behaviour to less than 10% of intervals and increase positive engagement to around 80% of intervals.

Third, it is not possible to tell how Mark scored the goodness of fit and social validity questionnaires given that he did not attend the target morning routine. It is likely that his scores were based on discussions with Sayaka and were thus affected by Sayaka’s perception of the routine. He might have felt differently if he had implemented the behaviour strategies himself. Survivability of behaviour support strategies is highly affected by both parents’ perceptions of goodness of fit and social validity. Therefore, it will be important to include Mark in the next target routine if I am to continue working with the family in the future.

Fourth, the absence of parent implementation fidelity data weakens the interpretation that a basic effect was demonstrated. Implementation fidelity data would strengthen my ability to make the case that positive outcomes achieved were due to the intervention (Carroll et al., 2007). Given this, I plan to code parent implementation fidelity data when I complete the single case withdrawal design to examine the functional relation between parent use of FCPBS plan strategies and changes in child behaviour.

Fifth, the absence of data on Rika’s problem behaviour and positive engagement in the routine moderates the claim that the morning routine had become moderately successful given the improvements in Shun’s behaviour from baseline to intervention. There are three reasons for the absence of data for Rika. First, Rika was diagnosed as having ASD after the baseline phase was completed and so we did not suspect that she would engage in significant problem behaviour during the morning routine. Consequently, during the baseline phase, I instructed Sayaka to keep the camcorder focused on Shun. Therefore, Rika’s behaviour was not captured in the camcorder for some of the subroutines. Second, during the baseline phase, when it was time for breakfast,
Sayaka placed Rika in a booster chair with straps that kept her safely seated in the chair. However, during intervention Sayaka stopped using the booster chair and straps with Rika. Because Rika was secured onto the chair during baseline, free operant behaviour was restricted in the breakfast subroutine. Since one of Rika’s problem behaviours was leaving assigned area, and this behaviour was observed during the intervention phase, a valid comparison between baseline and intervention in regard to problem behaviour was not possible. Lastly, during the assessment and plan design process, Sayaka specifically told me that her priorities were to reduce Shun’s problem behaviour and increase his positive engagement in the morning routine. Since Sayaka could complete the morning routine with Rika after taking Shun to school, she was not too concerned with Rika’s behaviour. For these reasons, we did not code Rika’s behaviour.

A final limitation of the study is that the IOA coder was not blind to the conditions of the study. The use of blind observers can prevent unintentional distortions of data in favor of the study’s hypotheses (Ledford, Lane, & Gast, 2018). In the study, a Japanese graduate student who was in the same master’s program as me was recruited for IOA coding. One therefore could argue that the results of the study were affected by her knowledge about single case design research and about interventions of children with ASD. Regarding this limitation, Ledford, et al. (2018) offer a nuanced perspective:

For some questions, blind observers are less feasible (e.g., in a study regarding the use of visual supports, it will be apparent to observers whether these supports are present or absent). However, observers can be recruited who are blind to study purpose and hypotheses (e.g., observers are trained on dependent variable data collection but are given no information about changes between condition and how that may impact measurement. (p.119)
Since the study involved the use of visual supports, I followed Ledford et al.’s suggestion by not disclosing to the IOA coder whether an observation session was in the baseline or intervention phase, and did not discuss with the coder my expectations for child behaviour within a video recorded observation session. However, to be sure, the IOA coder clearly discriminated the difference between baseline and intervention phases, as she saw the parent’s use of visual supports during the intervention phase observation sessions.

4.6 Future Research.

Future research warrants two major considerations: (a) replication of the study; and (b) cost analysis of telepractice. Since results obtained from the A-B design are susceptible to numerous threats to internal validity, the study should be replicated with an experimental single case design to determine whether or not a functional relation (Gast & Baekey, 2009) exists between a PBS plan implemented by a parent of a child with ASD within a telepractice approach to FCPBS and improvements in child behaviour and target routine participation. The family who participated in this study lived 1.5 hrs. away by public transportation and 0.75 hrs. away by a car. Future research should replicate the study with Japanese families in Canada that reside further from the central area where certified behaviour consultants are available. The study also should be replicated with Japanese families living in Japan. However, the application of the procedural features of the study would be difficult as the researcher would need to travel to the family’s home to set up for the study prior to data collection (e.g., safely confirm presence of problem behaviour in operationally defined family routine; provide and train parent to set up camcorder for video recorded observations). One possible solution to this logistical challenge would be to collaborate with researchers in Japan who shares an interest in positive
behaviour support with families of children with ASD. Doing so may enable the replication of the work in Japan.

Another consideration for future research is the conduct of a formal cost analysis of the telepractice approach to FCPBS. Although Lindgren et al. (2016) documented the financial benefits of telepractice coaching compared to in-vivo coaching to train parents of children with autism, the costs analyzed were for the parents’ conduct of a functional analysis and for implementation of functional communication training with their children. Future research should conduct a cost analysis when parents are taught to implement function-based, multicomponent behaviour support plans via telepractice. Doing so reflects the focus of PBS on improving child and family quality of life. Cost analysis should compare the total cost of distal coaching to empower parents to implement PBS plans in target home routines to the total cost of in vivo coaching of parents in target routines to achieve similar outcomes (Dávalos, French, Burdick & Simmons, 2009). Assuming that both approaches achieve intended parent and child outcomes, the cost analysis would provide preliminary evidence as to which approach is less costly in terms of time and consultant fees. Given the relatively close distance of the family to the interventionist in this study, evidence of substantial savings in cost will be optimized in studies in which families live at greater distances from the interventionist conducting the telepractice approach to FCPBS.
References


doi:10.1097/IYC.0000000000000058


The University of British Columbia (n.d.b.) Skype for Business FAQs. Retrieved from https://collaborate.share.ubc.ca/s4b/Pages/S4B-FAQs.aspx

The University of British Columbia (n.da.). Workspace 2.0. Retrieved from https://it.ubc.ca/services/web-servers-storage/workspace-20


Appendix A

CONSENT FORM FOR PARTICIPATION IN SCREENING PROCESS


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

Graduate Student Researcher: Serina Ando, B.A

Dear Parent/Guardian:

The purpose of this form is to request consent for you and your child with autism spectrum disorder (ASD) to participate in 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. Serina Ando is the Graduate Student Researcher. Yoko Masuda will serve as research assistant. The research study is for the fulfillment of degree requirements for the Master of Arts degree. I (Serina Ando) am inviting you and your family to participate in in a screening process prior to study participation because you have contacted Dr. Lucyshyn or me to indicate your interest in participating in the study, and a pre-screening phone interview indicated that your child and family may meet the criteria for study participation (see Information Sheet: Criteria for Study Participation) After reading this 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 positive behaviour support (FCPBS) approach to behaviour support with a family of a child with ASD and problem behaviour in the home when support to parent(s) is provided by telepractice. A description of FCPBS and telepractice are provided in the attached information sheet (see Information Sheet: Family Centred Positive Behaviour Support; and Telepractice).
FAMILY SUPPORT AND RESEARCH ACTIVITIES

If your family is eligible for study participation, you and other family members will collaborate with research team members in five family support activities and five research activities.

Family Support Activities: During these activities, you will:

1) set up remote telepractice support through your desktop or laptop computer at home with the assistance of the graduate student researcher;
2) participate in two assessment activities: (a) a functional assessment to understand your child’s problem behavior in a valued but problematic family routine; and (b) a family ecology assessment to understand your family’s strengths, resources, stressors and goals for child and family;
3) develop, in collaboration with the graduate student researcher, a behavior support plan for the valued but problematic family routine (i.e., target routine) that emphasizes preventing problem behavior, teaching new behaviour, and providing positive reinforcement to strengthen your child’s positive behaviour;
4) receive support for implementation via telepractice to help you implement positive behaviour supports with your child in the target routine; and
5) participate in follow-up activities once a month for three consecutive months by telepractice to assess whether improvements have maintained over time. If not you will receive additional training and support until child’s behavior improves to previous levels.

Research Activities: During these activities, you will:

1) assist the researcher in selecting one target family routine, defining a vision of a successful routine, and confirming the presence of problem behaviour in the routine;
2) set up videotaped observations in the target routine;
3) implement behaviour support plan strategies while video-camera records child behaviour and parent implementation of behaviour support plan strategies;
4) use a 10-item questionnaire to evaluate the acceptability and importance of the goals, procedures and outcomes of the telepractice approach to FCPBS; and
5) use a 20-item survey to evaluate the goodness of fit of the behaviour support plan with your family’s lifestyle and culture.

Research and family support activities will occur for up to 9 months. This will vary based on your time and availability, as we will accommodate your schedule based on your preferences and needs. The assessment and intervention phases of the study will last for up to 6 months. During this time, your child and family will be involved in support and research activities for
approximately 2-4 hours per week. The follow-up phase of the study will last an additional 3 months. During this time, your child and family’s involvement in research and support activities will be approximately 1-2 hours per month.

SCREENING PROCESS

We have developed a screening process to find out if your child and family are eligible to participate in the study. The specific steps in the process are described below.

1. **Preliminary interview.** I will first meet with you in your home or a place that is more convenient for you and conduct two preliminary interviews. The interviews are focused on understanding your child’s problem behaviours in the home, with a particular focus on identifying and defining a target routine in the home that is valued but problematic due to child problem behaviour. Each interview will take between 30 minutes and 1 hour.

2. **Preliminary observations.** If the interview indicates that your child is a good fit for the study, I will request permission to conduct one to two pilot observations in the home. With your permission, I will observe your child during the select family routine in which problem behaviour is reported to occur. During the observation(s), I will use an observation form to gather data about child problem behaviour. Each observation will last for 3-20 minutes.

3. **Informed consent for study participation.** If observations confirm the presence of problem behaviour in the observed home routine, I will invite you to participate in the study. At that time, I will ask you to read an informed consent letter for participation. I will answer any remaining questions you may have. If you decide to participate, you will be asked to sign the informed consent letter.

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; and (3) loss of confidentiality.

1. **Physical Risk** Because your child engages in problem behaviour, there is more than a minimal risk that you or other family members may experience a physical injury during the screening process. Every precaution will be taken to minimize this risk:
a. Criteria for participation include children who engage in mild to moderate intensity problem behaviour, reducing the possibility of physical risk due to high intensity problem behaviour; and

b. Observations immediately will be terminated if your child engages in high intensity problem behaviour. High intensity (untolerable) problem behaviour will be defined with you.

2. *Psychological Risk.* To determine your family’s eligibility to the study, you and your family will be observed during a home routine during preliminary observation(s). Some family members may feel discomfort during the observation(s). If this should occur, please feel free to stop the observation and notify the graduate student researcher (Serina Ando). Several steps will be taken to guard against this risk:

a. During preliminary observation(s), I will maintain a low profile and not call attention to myself;

b. You or other family members can terminate an observation session at any time.

3. *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;

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

c. Keep all hard copies of documents and data in a locked file in a secure office at UBC belonging to the PI, or in a secure home office of the graduate student researcher; and

d. If your family does not meet criteria for participation in the study, all data gathered during the screening process will be destroyed.

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 six potential benefits of participation:
a. Your child’s behaviour problems may decrease to low levels in target routine.
b. Your child may develop new skills that help him or her participate in the routine.
c. Your knowledge and skills in supporting your child with ASD may be enhanced and you may feel more confident in parenting your child with ASD.
d. Your family will be compensated for your time involved in the study with an honorarium of $100.00.
e. If childcare is required during telepractice sessions, your family will be compensated for childcare expense at $15.00 CAD per hour. The maximum total amount estimated is $540.00 CAD. This is the sum of hourly wages for a caregiver x 1 hour of coaching session up to twice a week for 18 weeks.
f. Through participation, other families who have children with disabilities may also benefit 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 use the information gathered during the screening process to provide you with three benefits:

a. a summary of the preliminary interview and observations;
b. recommendations for behaviour support based on the interview and observations, as needed;
c. referral to a behaviour consultant who is a Board Certified Behaviour Analyst (BCBA), or to an agency that provides behaviour support services, as needed.

PARTICIPANT WITHDRAWAL

At any time during the study, if you decide not to participate any longer, you have the right to withdraw from the screening process. Your participation and that of your child and other family members are voluntary. Your decision to withdrawal from the screening process will not affect your access to any future services. If you withdraw from the screening process, I will destroy all data gathered up to that point in time, and will refer you to appropriate, alternative sources for behaviour support services in your community. 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, e-mail joe.lucyshyn@ubc.ca; or Serina Ando at (778) 708-3246, e-mail sando@alumni.ubc.ca

ALTERNATIVES

Alternative sources for behaviour support may involve a local behaviour consultant providing behaviour support services through the conduct of a functional assessment, the design of a
behaviour support plan, and implementation support in the home. Alternatively, it may involve a Speech and Language Pathologist (SLP) assisting you in teaching your child functional communication skills that the child learns to use instead of problem behaviour to communicate their wants and needs.

WHO TO CONTACT IF YOU HAVE COMPLAINTS OR CONCERNS ABOUT STUDY

If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at (604) 822-8598, or if long distance e-mail RSIL@ors.ubc.ca or call toll free at 1-877-822-8598.

Sincerely,

Joseph M. Lucyshyn, Ph.D.                Serina Ando, 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

Study Title: Family Centred Positive Behaviour Support Delivered by Telepractice: A Single Case Analysis with a Japanese Parent of a Child with Autism (“the Study”)

Principal Investigator: Joseph Lucyshyn, Ph.D. Faculty of Education, UBC

Graduate Student Researcher: Serina Ando, B.A., Faculty of Education, UBC

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

___________ YES, I consent to participate in the screening process and give permission for my child with ASD and other family members (i.e., family members involved in a target routine) to participate in the screening process.

___________ NO, I do not consent to participate in the screening process, and my child with ASD and other family members do not have my permission to participate in the screening process.

Focus Child’s Name:_______________________

Parent/Guardian Signature:________________________________ Date:__________

Parent/Guardian Signature:________________________________ Date: _______

PLEASE RETURN THIS PAGE TO:
Joseph Lucyshyn, Ph.D.
Faculty of Education
University of British Columbia
2125 Main Mall
Vancouver, B.C. V6T 1Z4
CONSENT FORM FOR STUDY PARTICIPATION


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

Graduate Student Researcher: Serina Ando, B.A.

Dear Parent/Guardian:

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PURPOSE OF STUDY

The purpose of the study is to examine the acceptability and effectiveness of a family centered positive behaviour support (FCPBS) approach to behaviour support with a family of a child with ASD and problem behavior in the home when support to parent(s) is provided by telepractice. A description of FCPBS and telepractice are provided in the attached information sheet (see Information Sheet: Family Centred Positive Behaviour Support; and Telepractice).

FAMILY SUPPORT AND RESEARCH ACTIVITIES
Participation in the project will involve you and other family members collaborating with me in family support and research activities. Research and family support activities will occur for up to 9 months. This will vary based on your time and availability, as I will accommodate your schedule based on your preferences and needs. The assessment and intervention phases of the study will last for up to 6 months. During this time, your child and family will be involved in support and research activities for approximately 2-4 hours per week. The follow-up phase of the study will last for an additional 3 months. During this time, 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:

**Telepractice set up.** Because you already participated in the screening process, you have selected one target routine in the home for intervention and support. The next steps will be to: (a) set up for video recording the target routine; (b) share the video with me; and (c) receive behaviour consultation services via telepractice. To do so, I will come to your home to assist you to set up for the study. I will: (a) help you set up the UBC-approved Skype for Business telecommunication software on your home computer; (b) assist you in connecting to the UBC-approved Workspace 2.0 file sharing website; (c) show you how to use these programs; and (d) provide you with a video camera and help you determine a location in the home to place it during an observation session so that you can record parent and child behaviour during the target routine. Telepractice set-up will take approximately 1 to 2 hours.

**Baseline.** During the baseline phase, observations will be conducted in the target routine to assess child and parent behaviour before intervention. During a baseline observation session, you will set up the video camera and record the target routine. First, you will read a definition of the routine and attempt to engage the child in the routine, along with other family members as defined in the target routine. You will do so until the completion of the routine or a criterion level of untolerated problem behaviour is reached. Video recorded observations will occur once or twice a week. A minimum of three baseline observation sessions will be conducted. The schedule of observations will be determined in close consultation with you and your family. Baseline observation sessions will last between 3 and 30 minutes.

**Intervention.** During the intervention phase, Family Centred PBS delivered by telepractice will be implemented. You and your family will participate in the following activities: (a) comprehensive assessment; (b) functional analysis; (c) positive behavior support plan design; and (d) implementation support. A description of the intervention phase is provided in a second attached information sheet (see Information Sheet: Intervention Phase: FCPBS Delivered by Telepractice). You will participate in all intervention phase activities from your home. Serina Ando will provide implementation support from Vancouver, using the Blue Jeans telecommunication system. In regard to time, the comprehensive assessment will take approximately 2 to 4 hours; the functional analysis will take approximately 30 minutes to 1 hour, PBS plan design will take approximately 1 to 2 hours, and implementation training and support through telepractice will take place 2 to 4 hours per week (i.e., 1 to 2 training and support sessions per week) for 3 to 4 weeks.

**Withdrawal of Intervention.** The purpose of this phase is to document that your implementation of the PBS plan is the reason why your child’s behaviour improved in the target routine. During this
phase, I will ask you to temporarily withdraw implementation of PBS strategies during observation sessions; that is, you will temporarily stop using the strategies that I previously introduced to you. You do so across three observation sessions. The schedule of observations will be determined in close consultation with you and your family. Withdrawal sessions will last between 3 and 30 minutes. After the first or second withdrawal phase observation session, if you decide that you do not wish to continue the withdrawal phase, then we immediately will introduce the next phase, reintroduction of intervention.

**Reintroduction of Intervention.** During this phase, you will reintroduce the behavior support plan and all materials designed to support your child in the target routine (e.g., visual supports). I also will reintroduce training and support via telepractice to again help you implement plan strategies. Training and support will occur once or twice per week and last approximately 1 hour.

**Follow-up.** After the end of the reintroduction of intervention phase, during the last 3 months of the study, I will contact you once a month to arrange for you to conduct an additional video recorded observation in the target routine. Doing so will assess the durability of child and family outcomes. Following the observations, follow-up support by telehealth will be provided as may be needed or requested. Each follow-up session will last between 30 minutes and 1 hour in length.

**Video Recorded Observations in Target Routine.** Video recorded observations in the target routine will occur 1-2 times per week during the following phases of the study: baseline, intervention, withdrawal of intervention, and reintroduction of intervention. First I will teach you how to conduct the video recorded observations. Then during observation sessions, you will video record your child and family’s participation in the target routine. Each observation session will last between 3 and 30 minutes. After the observation session, you will upload the video on to Workspace 2.0. I then will code the data. During the next telepractice session, I will provide feedback to you based on my observation of the video.

**POTENTIAL RISKS AND SAFEGUARDS**

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

2. **Physical Risk** Because your child engages in problem behaviour, there is more than a minimal risk that you or other family members may experience a physical injury during the study. Every precaution will be taken to minimize this risk:
   a. Criteria for participation include children who engage in mild to moderate intensity problem behaviour, reducing the possibility of physical risk from high intensity problem behaviour; and
   b. Observations immediately will be terminated if your child engages in high intensity problem behaviour. High intensity (untolerable) problem behaviour will be defined with you.

2. **Psychological Risk.** You will be asked to video record the target routine involving your family members. Video recorded observation sessions will be used to examine: (a) child problem behaviour; (b) child routine participation; and (c) parent implementation of the PBS plan. Some family members
may feel discomfort during the video recording. If this should occur, please feel free to stop the video and notify the graduate student researcher (Serina Ando). Several steps will be taken to guard against this risk:

c. You will decide the day of observation sessions and will be able to stop video recording at any time.
d. All video recordings will be observed in a secure room at UBC and only members of the research team will view the video recordings;
e. After the first or second observation session during the withdrawal phase, if you wish to return to the intervention phase, we will immediately do so.

3. 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 in all documents;
b. Use a UBC approved secure file sharing program (Workspace 2.0) and teleconferencing system (Blue Jeans) during telepractice activities (i.e., when uploading video; during telepractice training sessions)
c. Conduct telepractice sessions on an encrypted laptop or desktop computer in a private room with a closed door either at a university lab or the graduate student researcher’s home office.
d. Allow access to information only to members of the research team;
e. Keep all data, notes, and videotapes in a locked file in a secure office at UBC belonging to the PI, or in a secure office of the graduate student researcher; and
f. Destroy all data collected for the study five years after the study is completed.
g. At any point in the study, if there is any abuse observed or you reveal that there has been an incident that involves abuse and/or neglect of the target child, a child under 19 years of age, or an elderly person (or that there is a risk of such occurring), please be advised that the researcher must, by law, report this information to the appropriate authorities regardless of whether parents agree to participate in reporting the incident.

POTENTIAL BENEFITS

By participating in the study, you, your child with ASD and other family members may experience five direct benefits and one indirect benefit.

1. Your child’s behaviour problems may decrease to low levels in target routine.
2. Your child may develop new skills that help him or her participate in the target routine.
3. Your knowledge and skills in supporting your child with ASD may be enhanced and you may feel more confident in parenting your child with ASD.
4. Your family will be compensated for your time involved in the study with an honorarium of $100.00 CAD.
5. If childcare is required during telepractice sessions, your family will be compensated for childcare expenses at $15.00 CAD per hour. The maximum total amount estimated is $540.00 CAD. This is the sum of hourly wages for a caregiver x 1 hour of coaching session up to twice a week for 16 weeks.
6. Through participation, other families who have children with disabilities may also benefit 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.

PARTICIPANT WITHDRAWAL

At any time during the study, if you decide not to participate any longer, you have the right to withdraw from the study. Your participation and that of your child and other family members are voluntary. Your decision to withdraw from the study will not affect your access to any future services. If you withdraw from the study, I will destroy all data gathered up to that point in time, and will refer you to appropriate, alternative sources for behaviour support services in your community. Terminating participation in the study will have no negative impact on my thesis research whatsoever. If you withdraw early in the research, I will recruit another family for the study and destroy all data, including video recorded data, gathered up to the point. If you withdraw later, I will complete my 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, e-mail joe.lucyshyn@ubc.ca; or Serina Ando at (778) 708-3246, e-mail sando@alumni.ubc.ca

ALTERNATIVES

Alternative sources for behaviour support may involve a local behaviour consultant providing behaviour support services through the conduct of a functional assessment, the design of a behaviour support plan, and implementation support in the home. Alternatively, it may involve a Speech and Language Pathologist (SLP) assisting you in teaching your child functional communication skills that the child learns to use instead of problem behaviour to communicate their wants and needs.

WHO TO CONTACT IF YOU HAVE COMPLAINTS OR CONCERNS ABOUT STUDY

If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at (604) 822-8598, or if long distance e-mail RSIL@ors.ubc.ca or call toll free at 1-877-822-8598.

Sincerely,

Serina Ando, B.A.  
Graduate Student Researcher  
Faculty of Education  
University of British Columbia

Joseph M. Lucyshyn, Ph.D.  
Principal Investigator  
Faculty of Education  
University of British Columbia
CONSENT FORM FOR STUDY PARTICIPATION

Study Title: Family Centered Positive Behavior Support Delivered by Telepractice: A Single Case Analysis with a Japanese Parent of a Child with Autism (“the study”)

Principal Investigator: Joseph Lucyshyn, Ph.D. Faculty of Education, UBC

Graduate Student Researcher: Serina Ando, B.A., Faculty of Education, UBC

Consent: I have read and fully understand the contents of the attached letter of request to participate in the study. I hereby consent to participate and give permission for my child with autism spectrum disorder (ASD) and to participate in the study.

I 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. I 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.

I understand that I will receive training and support through telepractice and that this will involve the use of Blue Jeans, a secure video conferencing system that has been adopted by UBC. I further understand that the study will include a temporary withdrawal of the behaviour support plan that may increase my child’s problem behaviour, and that the behavior support plan then will be reinstated. I understand that after the first or second observation in the withdrawal phase, if I choose to forgo continued sessions during the withdrawal phase, the intervention phase will be immediately reintroduced. I understand that only the investigators will have access to the video unless I give my specific permission for it to be viewed by any other person. I fully understand that my participation in the study and that of my family is entirely voluntary and that I, on behalf of my family, may withdraw this consent and terminate our participation in the study at any time. I also understand that I will receive a copy of this signed consent form for my own records.

Focus Child’s Name: ____________________________________

Parent/Guardian Signature: _______________________________ Date: _____________

Parent/Guardian Signature: _______________________________ Date: _____________

PLEASE RETURN THIS PAGE TO:

Joseph Lucyshyn, Ph.D.
Faculty of Education
University of British Columbia
2125 Main Mall,
Vancouver, B.C. V6T 1Z4
研究参加のための同意書
テレビ会議を用いた、家族中心の積極的行動支援: 自閉症の子供をもつ日本人の親への単一事例実験

主任研究員
Joseph M. Lucyshyn, 博士
Faculty of Education
University of British Columbia
2125 Main Mall
Vancouver, BC V6T 1Z4

大学院生研究員
安藤世莉奈

保護者様

この書類の目的は貴方様と自閉症をお持ちになる貴方のお子様が研究に参加するための同意を求めることにあります。研究はブリティッシュコロンビア大学教育学部で行われます。主任研究員はJoseph Lucyshynで、大学院生研究員は安藤世莉奈です。Yoko Masudaはリサーチアシスタントです。本研究は修士号取得のための研究です。貴方様が最近私と終えたスクリーニング過程において貴方様と貴方のご家族様がこの研究への参加への必要条件を満たしましたので連絡をとらせて頂いております。この同意書を読んだ後質問がある場合は、私安藤にご連絡ください。全ての手順がご理解いただけるよう、最善を尽くさせていただきます。

研究目的

この研究の目的はテレビ会議を使って家で問題行動をおこす自閉症児のいる家庭の親御様に、家族中心の積極的行動支援（FCPBS）アプローチをとった行動支援を提供した場合の容認性と効果を調べることにあります。FCPBSとテレビ会議については添付されたインフォメーションシート（インフォメーションシート：家族中心の積極的行動支援とビデオ会議について）をご覧ください。

家族支援と研究活動

この研究は研究活動と家族サポートの中で貴方とご家族様が私と連携することが必要となります。研究と家族サポートは最大9か月かかります。貴方の好みや必要性を考慮するので、この期間はあなたが空いている時間等により前後します。アセスメントと介入期は最大6か月かかります。この時期あなたと貴方のご家族は週に2-4時間程度支援活動と研究活動に参加していただきます。追従フェーズはその後最大3か月まで続きます。追従フェーズではあなたとあなたのご家族は月に1-2時間ほど参加していただきます。研究と家族支援活動は以下に記載されています。

テレビ会議の設置：スクリーニングの過程で、貴方様は介入や支援を必要とするターゲットとなる家でのルーティーンを選択致しました。次のステップは(a)ターゲットルーティーンのビデオ撮影のためのセットアップ、(b) ビデオを私と共有する (c) ビデオ会議をとして行動
コンサルテーションサービスをうけることです。そのために私は貴方様のご家庭を訪れ、研究のためのセットアップを手伝わさせて頂きます。具体的には、(a) UBCから許可されたテレコミュニケーションソフトウェアであるSkype for Businessをご家庭のコンピューターに設定(b)UBCから許可されたWorkSpace2.0というファイル共有のためのウェブサイトに接続する手伝い(c)これらのプログラムの使い方の説明(d)ビデオカメラの提供とターゲットルーティーン中の親と子供の行動が撮影できるように観察セッション中のビデオカメラの家での位置の決定をします。ビデオ会議のための設定はおよそ1-2時間程かかります。

ベースライン：ベースラインでは介入前の子様と親御様の行動を評価する為、ターゲットルーティーンを観察します。このフェーズでは貴方様にビデオカメラを設置・ターゲットルーティーンを撮影して頂きます。初めに貴方がターゲットルーティーンの定義を読み、ご家族様と一緒にターゲットルーティーンで決められたようにお子様をそのルーティーンに従事させて頂きます。貴方様はそのルーティーンをお子様が終わるか、お子様の問題行動が我慢できない基準レベルに達するまで続いて頂きます。ビデオ観察は週に1・2回ほど行われます。最低3回ベースラインの観察セッションは続けられます。観察のスケジュールは貴方様とご家族様と話し合いの結果決めさせて頂きます。ベースラインでの観察は3分から30分ほどがかかります。

介入期：介入フェーズではテレビ会議を通じた家族中心のPBSが実施されます。貴方とご家族様は以下の活動に参加して頂きます：(a)包括的アセスメント(b)機能分析(c)積極的行動支援計画の作製そして(d)実施サポートです。介入フェーズについては二つの添付されているインフォメーションシート(インフォメーションシート：介入期：ビデオ会議によるFCPBS)をご覧ください。貴方様は家ですべての介入活動に参加して頂きます。安藤世莉奈はバンクーバーからSkype for Businessでコミュニケーションシステムを使って実施支援を提供致します。時間に関しては、包括的アセスメントはおよそ2-4時間かかります。機能分析はおよそ30分から1時間かかり、PBS計画の作製は1-2時間程かかります。ビデオ会議を通じた実施トレーニングと支援は一週間に2-4時間程かかり(一週間に1回から2回のトレーニングと支援セッション)、3-4週間ほど続きます。

介入の一時撤回期：このフェーズの目的は貴方のPBS計画の実施がターゲットルーティーンでお子様の行動の改善の理由であることを記することにあります。このフェーズで私は貴方に、以前お教えした積極的行動支援ののストラテジーを一時的に取りやめて頂きます。貴方にはこれを3観察セッション行って頂きます。観察のスケジュールは貴方とあなたのご家族様と相談して決めさせて頂きます。一時撤回セッションは3分から30分かかります。もし一回か二回目の計画撤回の観察時に一時撤回期をやめるように求めるのならば、私たちはすぐに次のフェーズに移行致します。次のフェーズはPBS計画の再導入です。

介入の再導入期：この期間中、貴方は行動支援計画とあなたのお子様とターゲットルーティーンで支えるための全ての道具（例：視覚サポート）を再導入して頂きます。また、テレビ会議によるトレーニングとサポートを、貴方が行動支援計画を実践するにあたり支援のために再導入致します。このトレーニングとサポートは週に1・2回ほどそれぞれ約一時間かけて行われます。
追従フェーズ: 上記の介入の再導入終了後、研究の最後の3ヶ月の間、一か月毎にターゲットルーティーンのビデオ観察をさせて頂くためにご連絡を致します。この観察の目的は保護者様とそのお子様の結果の持続性を評価するためです。観察後、もし必要である場合、あるいは要請された場合はビデオ会議を通じて追従サポートを提供させて頂きます。それぞれの追従セッションは30分から1時間程かかります。

ターゲットルーティーンのビデオ観察: ターゲットルーティーンのビデオ録画は平均週に約1・2回、ベースライン、介入期、介入の一時撤回期、そして介入再導入期に行われます。初めに私がビデオ観察の方法を教えさせて頂きます。そして観察セッション中、貴方は貴方のお子様とご家族のターゲットルーティーンへの参加をビデオ撮影して頂きます。それぞれのビデオ観察は約3から30分ほどです。観察セッションの終了後、Workspace2.0にそのビデオをアップロードしていただきます。私はそのビデオのデータを分析し、そのビデオを元に、ビデオ会議でのセッション中に貴方にフィードバックを与えさせて頂きます。

潜在的危険性と安全措置

仮に貴方が研究に参加することに同意し、貴方のお子様とご家族様が参加する場合、貴方は(1)身体的(2)精神的(3)機密性の損失の潜在的危険性を認識しなければなりません。

1. 身体的危険性: 貴方のお子様が問題行動に従事するので、研究中に貴方や他の家族の方が身体的な怪我を経験する危険性が最小限以上にあります。この危険性を最小限に留めるためにできる限りの事前処置をとらせて頂きます。
   a. この研究に参加する子供を軽度から中度の問題行動を起こすお子様に限定することによって、高度の問題行動に従事した場合によって起こる怪我の可能性を軽減しました。
   b. もしご子様が高度の問題行動に従事した場合、観察は即中止されます。高度の(許容できない)問題行動は貴方と定義づけ致します。

2. 精神性の危険性: 貴方はご家族を含むターゲットルーティーンをビデオ撮影するように依頼されます。ビデオ撮影のセッションは以下のこと調査するために使われます：(a)子供の問題行動、(b)子供のルーティーンへの参加、そして(c)親御様のPBS計画の実施についてです。家族の中にはビデオ撮影に関して心良く思わない方もいるかもしれませんが、その場合、気兼ねなくビデオ撮影をやめ、大学院生研究者（安藤世莉奈）にその旨をお伝えください。この危険性をこの危険性を最小限に留め、以下のような措置を取らせて頂きます。
   a. 貴方様がビデオ観察の日程を決めます。また、ビデオ撮影の中止をいつでもやめることができるます。
   b. 全てのビデオはUBCの安全性の確保された部屋で鑑賞されます。研究チームの構成員のみがこのビデオを観ることができます。
   c. 行動支援の一時的撤回フェーズで1・2回観察を終えた後、もしおあなたが介入フェーズに戻りたいならば私たちはそれに即従います。

3. 機密性の損失: 機密性の損失: 貴方様とそのお子様、ご家族様が機密性を損失する可能性があります。そのようなリスクを回避するために以下のことを行います。
   a. 全ての書類に記載の個人の名前や場所、プログラムは名前を変更致します。
   b. UBCから許可されたファイル共有システム（Workspace2.0）とテレカンファレンスシステム
（Skype for Business）をビデオ会議活動中（ビデオをアップロードしているとき、ビデオ会議を使ったトレーニングセッション時）を使います

c. テレビ会議のセッションは大学の研究室か大学院生研究者のホームオフィスでドアを閉めた個室にある暗号化されたノートパソコンやデスクトップコンピューターを使っておこなわれます

d. 研究チームの構成員のみが情報にアクセスできます

e. 全てのデータやノート、ビデオはPIのUBCの安全の確保されたオフィスにある施錠されたファイル、または大学院生研究者の安全の確保されたオフィスにある施錠されたファイルに保管されます

f. 研究終了後5年後にこの研究で集められた全てのデータは破棄されます

g. 研究過程で虐待が観察されたり、虐待やターゲットとなっている子供、19歳以下の子供、或いはお年寄りのネグレクトを含む事件が起こった場合（あるいはそのようなことがある場合）、研究者は法により、親御様がこの通報に参加することに同意してもしなくても、この情報を適切な権力に通報しなければなりません。

潜在的利益
この選考過程に参加することにより、貴方様とお子様、そしてご家族様は5つの直接的な利益と1つの間接的な利益を得られることができます。

1. 貴方様のお子様のターゲットルーティーン中の問題行動が低レベルまで減少する可能性があります。
2. 貴方様のお子様がターゲットルーティーンに参加するのに役立つスキルを身に着ける可能性があります。
3. 貴方様の自閉症をもつお子様をサポートする知識やスキルが強化され、そのお子様を育てるのにより自身がつくかもしれません。
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代替案

他の行動支援サービスは機能的アセスメント、行動支援プラン、そして家での実施支援を行っている行動支援サービスを提供する地域の行動コンサルタントかもしれません。また、言語聴覚士（SLP）が貴方のお子様が要望や必要性を表すために使う問題行動の代わりに機能的なコミュニケーションスキル学ぶのを貴方が教えるのを手助けるサービスかもしれません。

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研究表題: テレビ会議を用いた、家族中心の積極的行動支援の結果: 自閉症の子供をもつ日本
人の親への単一事例実験 （「研究」）

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同意: 私は同封されていた研究参加への要請の手紙を読み、内容を完璧に理解した上で自分の
実験への参加に同意する。また、ここに自分の子供が研究へ参加することを許可する。

私は研究目的のため研究員から生年月日の記載された個人情報や、最新の IQ スコアやテスト、
診断情報や医療記録などを要請された場合、情報を公開することに同意する。学術的理由で公
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更に私はこの研究で Skype for Business という UBC が採用している安全なビデオ会議のシステム
を用いてトレーニングや支援を受けることを理解する。更に私はこの研究が行動支援計画の
一時中止を伴うことを理解し、この期間子供の問題行動が増加する可能性があることと、その
後行動支援計画が再導入されることを理解する。1 回、または 2 回目の一時撤回期での観察
後、もし私がこのフェーズでのセッションをやめることを選んだ場合、介入期が即座に再導入
されることを理解する。私が他人に特定の許可を与えない限り、これらの情報は研究チーム以
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であり、私が家族を代表してこの同意を撤回し、研究への参加を取りやめることができる
ことを理解する。また、この同意書のコピーを自分個人の保管のために受け取ることを理解する。

被験者名 (子供の名前): __________________________________________
保護者名: __________________________________________________________
保護者署名: ___________________________ 日付: ________________
保護者署名: ___________________________ 日付: ________________

このページを下記に返却してください

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Appendix C

Positive Behaviour Support Plan for Morning Routine

Overview

Included in this document are: (a) a summary of vision identified by parents; (b) a summary of functional assessment for your son and daughter, (c) positive behaviour support plan (PBS), and (d) evaluation procedures. First, Shun’s functional assessment results are presented. This will be followed by Rika’s functional assessment results. Results of the functional assessment includes: (a) description of problem behaviour; (b) communicative purposes for engaging in such behaviour; (c) factors that make the problem behaviour more likely to happen; and (d) triggers for the problem behaviour. Then, the PBS strategies based on the functional assessment results for both children are explained in detail. These strategies are shown to be effective from years of research, and most, if not all, of them are designed to be used for both of them.

Vision

During an initial interview, you have identified some family routines that you value but find challenging. A morning routine was selected as one of the valued but challenging home-routine. Subroutines included in the morning routine are: (a) waking up; (b) washing face; (c) eating breakfast in the dining area; (d) brushing teeth; (e) putting on clothes; (f) occupying themselves if there is extra time; (g) putting on shoes to leave home. Family goals and values that are incorporated in the morning routine: (a) your desire for your child(ren) to follow instructions or comply with requests; (b) your strong desire for both children to communicate; and (c) being on time. Overall, the children will complete morning routine tasks cooperatively and with increasing independence. They will complete the routine within an hour. They also will communicate their wants and needs, and engage in very simple conversation exchanges.

Introduction for Shun

Shun is a charming 5-year-old child living with his parents and a younger sister. He has the diagnosis of autism. He can echo sounds modeled by the mother and communicate with one one-word or signs in a few contexts (e.g., saying “itai [trans. Ouch]” when he gets hurt; signing more at the centre he receives behaviour intervention). His communication methods mainly consist of physical communication (e.g., leading, gently pushing, and grabbing others or items). Shun’s support team developed this plan because of your concerns over his problem behaviour and strong desire to improve his behaviour. Based on a discussion with you, a morning routine to get ready for school was chosen as a starting point for you to feel comfortable with the implementation of PBS plan. Each strategy in the plan is based on results of the functional assessment and discussions with you. The plan includes a summary of functional assessment and a description of the multi-component positive behaviour support plan.

Functional Assessment Summary for Shun

Behaviour of Concern: physical aggression (e.g., pinching, squeezing, grabbing); disruptive or destructive behaviour (e.g., throwing objects; removing clothing after putting it on; putting back pajamas; playing with toothbrush; jumping, falling, or rolling on bed; repeatedly opening and closing door); noncompliance (i.e., failing to comply with your request); climbing; negative vocalization (e.g., screaming, whining, screeching, crying); food refusal behaviour (e.g., throwing utensils with food; turning head away when presented with foods); leaving assigned area (e.g., leaving seat, standing on chair); physical resistance (e.g., pushing, turning, wiggling, turning, pulling away when parent provides
physical assistance); inappropriate eating behaviour (e.g., playing with utensils; scooping and dropping food on table or floor; dipping fingers in food; laying on chair; play with food; grabbing food from others)

**Purposes of Problem Behaviour:** Results from the functional assessment indicate that Shun’s problem behaviour serves at least three functions: (a) to escape from request or demands; (b) to obtain desired items or activities; and (c) to obtain attention from others, particularly mother.

**Person Factors:** Two skill deficits due to child’s diagnosis are associated with the likelihood of child problem behaviour. First, because he has a delay in language development and limited communication skills using an alternative method, it is easier for him to use problem behaviour to communicate his needs. Second, because he has limited play skills and shows less interest in toys at this moment, occupying himself for a prolonged period of time may be hard for him. This increases the value of others’ attention when he is unoccupied.

**Environmental and Biological Factors:** other factors that may increase the likelihood of Shun’s problem behaviour are: (a) lack of predictability; (b) lack of choice making opportunities; (c) transition from one activity to another; (d) target routine starting right after the child waking up; (e) crowded environment; (f) lack of activities to occupy himself when mother is busy; and (g) the child is sick or constipated.

**Triggers of Problem Behaviour (Antecedent Events):** Several observable events serve as triggers of Shun’s problem behaviours. These are followings:

1. Triggers for escape-motivated problem behaviours: (a) demands or requests to do difficult or nonpreferred tasks; (b) there is an unexpected change in the routine; (c) nonpreferred or difficult tasks or non-preferred food are presented.
2. Triggers for item/activity-motivated problem behaviours: (a) desired items are present; (b) access to desired items are denied or blocked; or (c) desired activities are interrupted.
3. Trigger for attention-motivated problem behaviour: when no attention is given to the child (e.g., mother is talking to another person, mother is taking care of her daughter).

**Introduction for Rika**

Rika is a sweet 2-year-old child living with his parents and an older brother. She recently got the diagnosis of autism. Although her vocal language is yet to manifest, she can indicate her needs by physical communicating with parents (e.g., pointing, giving an object, moving closer to parents). Her support team developed this plan because of your concerns over her problem behaviour and strong desire to improve her behaviour. Based on a discussion with you, a morning routine was chosen as a starting point for you to feel comfortable with the implementation of PBS plan. Each strategy in the plan is based on results of the functional assessment and discussions with you. The plan includes a summary of functional assessment and a description of multi-component positive behaviour support plan.

**Functional Assessment Summary for Rika**

**Behaviour of Concern:** negative vocalization (e.g., crying, whining, screaming); physical resistance (stiffing muscle and holding herself); disruptive or destructive behaviour (e.g., undressing when she’s expected to keep clothes on, banging objects, throwing objects); noncompliance (i.e., failing to comply with your request); climbing; food refusal (e.g., turning away from foods; running away from foods); inappropriate eating behaviour (e.g., playing with food or drink; going to drawer to change a spoon several times during a meal).
**Purposes of Problem Behaviour:** Results from the functional assessment indicate that Rika’s problem behaviour serves at least three functions: (a) to escape from request or demands; (b) to obtain desired items or activities; and (c) to obtain attention from others, particularly mother.

**Person Factors:** Two skill deficits due to child’s diagnosis are associated with the likelihood of child problem behaviour. First, because she has a delay in language development and limited communication skills using an alternative method, it is easier for her to use problem behaviour to communicate her needs. Second, because she has limited play skills, occupying herself for a prolonged period of time may be hard for her. This increases the value of others’ attention when she is unoccupied.

**Environmental and Biological Factors:** Other factors that may increase the likelihood of Rika’s problem behaviour are: (a) lack of predictability; (b) lack of choice making opportunities; (c) crowded environment; (d) another person needs to take care of Rika in presence of mother; and (e) the child is hungry.

**Triggers of Problem Behaviour (Antecedent Events):** Several observable events serve as triggers of Rika’s problem behaviours. These are followings:

1. Triggers for escape-motivated problem behaviours: (a) demands or requests to do difficult or nonpreferred tasks; (b) non-preferred or difficult tasks are presented
2. Triggers for item/activity-motivated problem behaviours: (a) desired items are present; and (b) access to desired items are denied or blocked.
3. Trigger for attention-motivated problem behaviour: when no attention is given to the child (e.g., mother is not available in the same room; mom is taking care of her son).

**Positive Behaviour Support Plan**

**Lifestyle/Ecological strategies**

1. **Embed preferred items within subroutines.** You will embed children’s preferred items or activities in the routine. Examples include: (a) providing the children with preferred food (e.g., seaweed and/or natto for your son; fruits, natto, toast with jam, and/or yogurt for your daughter) during breakfast; (b) showing them a preferred video while they eat breakfast; (e.g., Shark Song, Simajiro); and (c) providing Shun with pieces of comfortable clothing for him to put on.
2. **After waking children, engage in gentle physical contact and talk to help them become completely awake.** You will implement a sequence of strategies for the child to be fully awake before starting the morning routine and he eats breakfast. This includes: (a) open the curtain, (b) bring a warm towel to his cheeks, (c) provide him with gentle physical touch such as rubbing his back, and/or (b) gently talk to child without making demands (e.g., “Good morning, “it is a lovely day”, “you had a good sleep”)
3. **Use morning visual schedule of routine tasks to increase predictability.** Before waking the children, it will be helpful to show the children (at the time each is woken up) the visual schedule which illustrates the whole set of routine tasks expected during the morning routine. The order of routine tasks is consistent across days as follows: wash face, eat breakfast, brush teeth, put on shirts and pants, put on socks and footwear, put on outwear as needed, and leave home. When showing the children the visual schedule, use simple, easy to understand language (e.g., “You woke up! We are going to wash your face, eat breakfast, brush your teeth, get dressed, put on socks and shoes, and go. First, we are going to wash face” … washing face is all done … Now, it’s time for breakfast” … etc.).
After showing the full sequence the first time, you will show the sequence again after each subroutine is completed and before the next subroutine (e.g., [point to picture] Look! You washed your face; [point to next picture] look, now we will eat breakfast)

4. **Provide choice opportunities throughout routine.** During the routine, it will be helpful to provide the children with opportunities to make choices, as doing so can increase cooperation with routine tasks. This strategy should be used in at least two occasions:
   a. Using choice board: At the beginning of morning routine, present choice board to each child and ask him or her what he/she wants to get for doing the tasks of the routine. Each of the choice boards has pictures of reinforcers (e.g., small treat). Once the child picks a picture, place it at the end of the task sequence of the subroutine in which he or she is engaged. To help the children understand that the picture is a reinforcer that they will receive after completing a subroutine, give your son or daughter a small amount of the item right after they select the picture of it.
   b. When presenting choices, hold up 2 items that they prefer and ask them to choose one (e.g., “Gray pants and yellow pants. Which one do you want?”) or ask Rika to choose clothing from a dresser (e.g., “which blouse do you want to wear today?”).

5. **Arrange environment so that it becomes more difficult for child to leave an assigned area:**
   You can use this strategy in at least two situations: (a) seating arrangement during breakfast; (b) installing a door safety lock while helping child brush his/her teeth.
   a. Seating arrangement: So that the children are more likely to stay in their seats in the kitchen, it will be helpful for Shun to sit on a chair by the wall, and for Rika to sit at the side of the table. It also will be helpful for you to sit between Rika and Shun at the corner of the table. Doing so enables you to assist Shun to eat food as needed, block Shun when he tries to leave the seat, and assist Rika to stay in her seat and to eat her food as well.
   b. Installing a door safety lock on the bathroom door: Once you and the children are in the washroom for face washing and later for toothbrushing, it will be helpful to close the door. This will help the children understand and follow the expectation to stay in the assigned area. This will also make it easier for you to redirect your son or daughter if they try to leave the bathroom.

**Preventative Strategies**

1. **Use verbal and/or visual positive contingency statements (e.g., first wash face, then get [small treat]).** For each subroutine, there is a visual sequence of the tasks in the subroutine. At the end of the visual sequence of tasks is a box with a star on it where the reinforcer selected by the child is place. The visual task sequence plus picture of reinforcer shows the children what they need to do and what they will get after doing it. This is called a visual contingency because it predicts doing a task followed by getting a reward. Once the reinforcer is place at the end of the task sequence, use simple language and point to the visual to explain the contingency (e.g., “First, wash face, then get a goldfish!”; “first eat your breakfast, and then get Yakult.”)

2. **Provide safety signals to help child understand how long they need to tolerate a delay before getting (a) item or activity he or she want; (b) break or end of non-preferred task or (c) parental attention.** Below are examples of safety signals you can use to prevent escape-motivated problem behaviour and attention motivated problem behaviour. Examples are as follows:
   a. **Item-motivated behaviour**
      i. Before you expect Shun or Rika to engage in problem behaviour to get a preferred item or activity, you can tell him what he/she needs to do or how long
he needs to wait before he/she gets the preferred item/activity. e.g., “three more bites, then you can get your Yakult”.

b. **Escape motivated behaviour**
   1. When assisting Shun to wash his face, say, “We will wash your face two times, then we are all done.”
   2. When helping Shun finish his breakfast, say, “3 more bites, then you can leave the table”
   3. When assisting Rika to brush teeth, say, “I will brush your teeth for 10 seconds, then you are all done”;

c. **Attention motivated behaviour**
   1. When you need to walk away from Rika and thus remove your attention, you can say, “Keep sitting and eating, mommy will be back in a few minutes.”
   2. When turning your attention to Shun at the breakfast table, you can say, “I am going to help Shun now. Keep eating and I will talk with you in a minute.”

   Note: When using safety signals to prevent attention-motivated problem behaviour when you have to remove your attention for a few minutes or longer, it can be helpful to use visual or digital timer that reminds you and the children when you will give them attention again. When the timer goes off, immediately come back to the child and provide attention.

3. **Use effective requests (e.g., “turn on tap”; “eat the food, “put on pants”).** To help children comply to requests, it is important to use effective requests. Effective requests have the following features: (a) parent is next to child when making request; (b) parent first gets child’s attention before making request; (c) request is stated clearly and explicitly; (d) request is to do one step in a task; (d) before making request, parent waits until child is physically ready to comply; and (e) request is stated in positive and confident tone of voice. Examples of effective requests include: “walk to bathroom” “turn on faucet” “wash your face” “go to kitchen,” “use your spoon,” “take a bite,” “hold shirt here,” “put your arms in the sleeves” and “put on shoes.” Nonexamples include: “wash” “please” “we only have 3 minutes, so you need to eat,” “my daughter is eating,” “we are going to brush teeth,” “put on your clothes,” “why can’t you put on your shirt?” “Can you put your shirt on? “put on your clothes”; while the child is still eating food, you say, “Wash your face”; while child still has utensils in hand, you say, “it’s time to go.”

   After using an effective request, it is important to follow through to make sure the child complies to the request. Here are important tips to succeed:

   a. If the child does not comply within 5-10 second, use a prompt that ensures that the child does the task step. This may be modelling the task step or providing physical help to put the child through the task step (e.g., take child’s hands and guide to the water coming from the faucet; take child’s hand to pick up spoon and put food on it from bowl; place child’s hands on opening of shirt and guide his hands to pull the shirt over his head.
   b. Avoid repeating the same request/demand, as this will teach child that he or she does not need to listen to you.
   c. Do not change the request to a different request to do a different task, as this also will teach the child not to listen to you.

4. **Provide toys to occupy daughter while assisting son.** Right before you assist son to wash his face, brush his teeth, or dress himself, give 3-4 toys to you daughter so that she can occupy
herself while she waits for you. This will allow you to fully assist your son when needed and minimize the likelihood that your daughter engages in problem behaviour. Reserve the 3-4 toys so that they will only be used during the morning routine.

5. **Mother remains at table during breakfast.** To minimize attention-motivated problem behaviour and effectively assist children in eating breakfast, stay at the table during breakfast. This also will serve as a model for your children to stay at a table.

**Teaching Strategies**

1. **Use whole task instruction to teach children to do the steps in each morning subroutine with greater independence.** Provide enough help immediately so that the children succeed in doing the task step the first time. Sometimes, this will require physical assistance, sometimes it will require modeling (i.e., showing children how to do it). Sometimes, it will require pointing to what they have to do. Sometimes, it will require a simple, effective verbal request. Whatever level of assistance is necessary, provide that level of assistance that allows the children to immediately succeed in doing the task step. For example, if you know that Shun needs physical assistance to put on his shirt, immediately after saying “put on shirt,” immediately take his hands, and guide him to take the opening of the shirt and physically pull it over his head. If you know he needs physical assistance to put his hands in the opening of the sleeves, then guide his hands under the shirt to push through into his shirt sleeves. As children begin to do the morning subroutines tasks with greater independence, begin to fade your assistance. First fade physical help, then fade modeled help, then fade pointing help. When giving the children physical help, make sure to assist them from behind.

2. **Use Functional Communication Training (FCT) to teach children to use language.** When one of your children looks like he/she wants a break from or help with a task, wants a desired item; or wants attention, use FCT to teach the child to use language to request what they want or need.
   a. When you are engaged in a task with your child or when you make a request or demand and the child looks like he or she doesn’t want to do the task, then physically assist the child to sign “help” or “break” and/or model the language for him or her to repeat.
   b. When the child appears to want an item or activity (e.g., child reaching for an item; staring at a preferred item), then physically assist the child to sign “want” and/or model language (e.g., want, show me, or the name of the item he or she wants) for the child to repeat. If the child uses a “want” sign with or without assistance from you, take the child to a visual board with his or her preferred items (e.g., on a fridge, on a cupboard) and ask him/her to choose what he or she wants from the visual board.
   c. When it appears that the child wants attention (e.g., child looking at you; child walking up to you), then physically assist the child to gently pull your arm and/or model the language for getting attention (e.g., “Come here/Kocchi, “mama”, or “papa”)” for him/her to repeat.
   d. Over time, fade the prompt you use. Below is an example of a common way to fade the use of prompts to promote language use
      i. fully and physically assist Rika to sign “help”
      ii. partially and physically assist the child to sign “help” by nudging elbow
      iii. point to the child’s hands for him to sign “help”;
      iv. fully model the word “help” and the child copies it
      v. partially model the word “he…” and the child says “help”
vi. wait for the child to say “help” and if he does not say it, provide partial modeling of “he…”.

vii. Note: Initially, verbal approximations of target sounds will be considered a request (e.g., saying “Ko-shi” instead of “Kocchi”).

3. Once child can use language to communicate the above needs independently and consistently, gradually increase delay in (a) giving requested item or activity; (b) giving child break or help; or (c) providing attention or assistance. After the children consistently are able to ask for desired item, activity, break, help, or your attention using sign language, vocal language (including vocal approximations), or a picture, start teaching the children to tolerate a delay in the delivery of what is requested.

a. For requests to stop or get a break from a task, tell the children to complete one short task (e.g., “eat one more bite, then you can have a break”; “put your one sock on, then I can help you”) before assisting the children or providing them with a break from the task. As the children successfully tolerate the request to do more before getting help or a break for two consecutive days, increase what the child has to do to get help or a break (e.g., “Eat two more bites, then you can have a break”; “Put both socks on, then I will help you with your shoes.”).

b. For requests to get an item or activity, this can be done by telling the children to complete one short task (e.g., “eat one more bite, then I’ll give you …”; or wait a bit longer (“wait one minute, then I’ll give you …”) before accessing to the item they want. When children successfully tolerate a delay in getting an item or activity for two consecutive days, then increase the task the children have to do, or the amount of time they have to wait before giving them what they want (e.g., get your pants and shirt on, and then you can have …. “Wait two minutes, then you can have …”).

c. For requests for attention, tell the children to wait for 5 seconds (e.g., “wait for 10 seconds and then I will be there”). When the children successfully tolerate waiting for attention for two consecutive days, then increase the expected wait time by 10 seconds.

Effective Consequences

1. Provide praise and a small treat contingent on doing desirable behaviour in the morning routine: (a) engaging in steps of subroutine; (b) complying to requests; (c) accepting denial of request; and (d) waiting and/or playing nicely while you are busy.

a. Reinforce steps in each subroutine. Provide praise and brief physical contact or small edible item when child finishes a step or complies to task requests in subroutines. For example, when Shun puts on pants (at whatever level of assistance necessary), praise him and give a small treat (e.g., “Shun, you put pants on! [place treat in his mouth]”); as Shun brushes his teeth (at whatever level of assistance necessary) praise him and give him massage; when he uses his spoon to eat his breakfast, you praise him and gives him a tickle; when Rika puts her shirt on, you praise her and give her a hug.

b. Reinforce completion of subroutines. Provide praise and a reinforcing item immediately after child completes a morning subroutine (i.e., washing face, eating breakfast, brushing teeth, dressing [put on pants, shirts, jacket], putting on socks and shoes to leave home).

c. Accepting denial of a request. Provide praise and an alternative reward if children go back to the activity in the routine they are currently involved in right after you denied access to the preferred item. For example, during breakfast while Shun is eating rice and seaweed, he asks for Yakult. You reply, “not now. finish your breakfast first,” After Shun
goes back to eating his breakfast without engaging in problem behaviour, you praise him and add furikake to his rice.

d. **Waiting or playing nicely while you are busy.** Praise and engage in the children’s preferred activity (e.g., roughhousing, swinging Shun in circle, lots of tickles) with the children if they wait or play independently until you become available. If engaging in preferred activity is not possible due to time constraints, provide them with a preferred edible item.

e. **Below is a list of the children’s social and food reinforcers**
   i. Small treats for Shun are: food items (i.e., red bean/green bean bun, Yakult (only used after finishing a breakfast), chips, goldfish, dorayaki; physical interactions (i.e., massaging, tickling).
   ii. Small treats for Rika are: physical interactions (i.e., hugs, tickles, spinning her, deep pressure, squeezing, massage); food items (i.e., cheerios, mandarin orange, Yakult, cheese strings, crackers, red bean bun, mangos).

f. **Important tips**
   i. Initially, reinforcers for Shun need to be food items. This will be replaced with physical interactions and faded over time as he becomes more competent and compliant to do steps in morning routine tasks. Reinforcers for Rika can be physical interactions as well as food items.
   ii. When providing small treats, be sure to praise the children before you give them the small treats. This will ensure that they understand why they are getting the reward.

2. **When children request for what they want (i.e., break or help, desired item, attention from others) immediately provide them with it.** Provide break or help, a desired item or activity, or attention to the children immediately after the children use sign or vocal language to communicate their want or need. Vocal language includes approximations of target words (e.g., child says “Tahte” or “Ta” instead of saying “Tasukete” (i.e., help).
   Caution: When children approximate a word or sign language, be sure to immediately reinforce them by delivering what they requested. It is best not to turn the child’s use of language into a “teaching opportunity” by requiring more correct or complete language. Doing so may be uncomfortable to the child and so may discourage him or her from using language again with you.

3. **If the child(ren) engage in minor problem behaviour:** (a) actively ignore and redirect back to task; (b) prompt children to use language and then honor request; (c) once language is firm, use safety signal to build compliance.
   a. **Escape-motivated minor problem behaviour.** When the children engage in minor problem behaviour to escape a demand or task: (a) actively ignore the problem behaviour and redirect back to task in which they are engaged (e.g., after child throws a piece of clothing re-present the clothing and repeat the demand; after the child leaves their assigned areas, bring them back and repeat the task request for the task they ran away from); or (b) prompt the children to sign or say “break” or “help” and honor the request. Once they consistently sign or say “help” or “break” (including verbal approximations) without your assistance, use a safety signal to build endurance for delay in getting what they want (e.g., “Do one more, then you can have a break”).
   b. **Item- or activity-motivated minor problem behaviour.** When the children engage in minor problem behaviour to get an item or activity: (a) actively ignore the problem behaviour and redirect the child back to the task or activity they are currently engaged
in; or (b) prompt the children to use sign or vocal language to ask for the item or activity that they want. After they do so, honour their request. Once children reliably use language to request items or activities, use safety signals to build endurance for delay (e.g., “wait for 5 more minutes, then I’ll give you what you want”).

c. **Attention-motivated problem behaviour.** When the children engage in minor problem behaviour to get attention: (a) actively **ignore the problem behaviour** and redirect the child back to the task or activity in which they are engaged but do so in a manner that minimizes your attention to the problem behaviour (i.e., do not talk about the problem behaviour, minimize eye contact until the child is successfully redirected.) If possible, get behind child when you redirect them, so they cannot see you as you guide them back to the task or activity in which they were engaged; or (b) prompt the children to use sign or vocal language to ask for your attention. After they do so, honour their request. Once children reliably use language to request attention, use safety signals to build endurance for delay. (e.g., “wait for 5 more minutes, then I will come and visit with you”).

i. **Minor problem behaviour for Shun** includes but is not limited to: minor negative vocalizations (i.e., whining or screeching); leaving assigned area (e.g., standing on chair, leaving the room); disruptive or destructive behaviour (e.g., throwing a soft object such as pants, removing clothing, putting back pajamas, giggling that interfere with the routine, sitting on a table, kicking clothing, playing with toothbrush); noncompliance; climbing; food refusal (e.g., turning head away when presented with food); inappropriate eating behaviour (e.g., grabbing food from others, playing with food items); and physical resistance (e.g., pulling away, pushing away, wiggling away).

ii. **Minor problem behaviour for Rika** includes but is not limited to: negative vocalizations (e.g., whining); physical resistance (e.g., stiffing muscle and holding herself); disruptive or destructive behaviour (e.g., undressing when she’s expected to keep clothes on, banging objects, throwing objects); noncompliance; climbing; food refusal (e.g., turning away from foods; running away from foods); inappropriate eating behaviour (e.g., playing with food or drink; going to drawer to change a spoon several times during a meal).

4. **If the child(ren) engage in moderate to high intensity problem behaviour:** the purpose of consequence strategies for moderate to high intensity problem behaviour is to teach the children that engaging in these problem behaviours does not lead to a reward from the child’s point of view (i.e., they do not escape the task, they do not get the item/activity they want, they do not get the attention they want). It is important to teach the children that engaging in the problem behaviour is ineffective for the problem behaviour to be eliminated.

a. **Escape-motivated behaviour:** (a) remain calm; (b) block child from leaving assigned area; (b) if possible, put child through task step; (c) if not possible, wait until child calms down; (c) say, when calm we continue; (d) when child is relatively calm, continue task by physically assisting them to do task step; (d) after task step is completed, prompt to ask for break, if needed; (e) give child a brief break (10-30 seconds); (f) return to completion of subroutine. Below is a scripted list of what to do:

i. remain calm.

ii. If necessary, block child from leaving assigned area. (e.g., stand or sit in front or next to child and put him at a corner of room; sit on floor with knees bent and child in between your legs)
iii. If possible and safe, briskly put child through the task step that he or she engages in problem behaviour to escape
iv. If not possible or safe, wait until child is calm. Say, “When calm, we will continue.” While waiting, make sure child does not gain access to an item or alternative activity.
v. Once calm, put child through task step that he or she engaged in problem behaviour to escape.
vi. Then prompt child to ask for break or help by signing and/or using vocal language
vii. Give child a break for 10-30 seconds. When providing the break, make sure s/he does not gain access to other activities or items; if the child engages in problem behaviour during break, make sure you actively ignore the behaviour.
viii. When break is over and child is calm, remind child of task steps to complete and the reward that he or she will get for completing task steps.

b. Item- or activity-motivated problem behaviour: (a) remain calm; (b) actively ignore the problem behaviour until they calm down; and (c) withhold the delivery of the item for the rest of the morning.

When the children engage in moderate to high intensity problem behaviour to get an item or activity you will:

i. say, “problem behavior does not get things”;
ii. remain calm and block or remove access to the item or activity;
iii. if behavior occurred in the morning, do not allow access to the item or activity until the afternoon; let the child know that they can have access in the afternoon.

b. Attention-motivated problem behaviour: actively ignore the behaviour and while minimizing attention, redirect the children to appropriate behaviour for the routine (e.g., sit with hands to self, play with toy nicely, get food served).

When children engage in major problem behaviour to get attention:

i. actively ignore the behaviour and redirect the children while minimizing any form of attention. Do not make eye contact, do not reprimand the child, do not talk about the behaviour.
ii. if possible, get behind the child so he/she cannot see you, redirect child to an appropriate behaviour.
iii. once child is re-engaged in the task or activity, use a safety signal (e.g., play nicely, quiet hands and I will talk to you in a minute). Set a visual or sound timer to remind you.

Major problem behaviour for SHUN includes: major negative vocalization (i.e., screaming and crying); major disruptive or destructive behaviour (e.g., throwing a hard object that can cause harm to himself or others, pushing over objects, slamming door); and major food refusal behaviour (e.g., spitting food out of mouth, throwing utensils).

Major problem behaviour for RIK includes: major negative vocalization (e.g., screaming and crying); major discursive or destructive behaviour (throwing hard objects).

Evaluation Procedure

Included in this plan is an implementation checklist. The purpose of the checklist is for you to self-monitor and self-manage your implementation of the behaviour support strategies in the PBS plan. The checklist also allows you to assess the levels of problem behaviour the child engaged in during...
the morning routine. In addition, the checklist gives you an opportunity to evaluate the social validity of the PBS plan; that is, the extent to which the plan’s goals, procedures, and outcomes are important and acceptable to you. After completing a morning routine in which you implemented the PBS plan, please send the implementation checklist along with each observation video for the researchers to guide their tele-coaching sessions.
# Appendix D

## Morning Routine Training Data

<table>
<thead>
<tr>
<th>Steps</th>
<th>Little Assist</th>
<th>Much Assist</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Wake up</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2 Go to washroom and wash face</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3 Wash face</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4 Go to dining area</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5 Sit and stay in a designated chair during a meal</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6 Use utensils when eating</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7 Finish eating served bowl</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8 Go to bathroom</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9 Brush teeth, stay in front of the mirror</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10 Go to bedroom or entrance</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11 Put on underwear/pants in the right way</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12 Put on shirt in the right way</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13 Put on socks in the right way</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14 If applicable, manage free time before leaving to school</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15 Put on footwear appropriate for the weather</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16 Put on outerwear as needed</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17 Leave with parent and sister</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem Behaviour</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Shun’s Problem Behaviour</td>
<td>0</td>
</tr>
<tr>
<td>2 Rika’s Problem Behaviour</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implementation of PBS plan</th>
<th>Not used</th>
<th>Used well</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Event Strategies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Embed preferred items within subroutines</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2 After waking Shun, engage in gentle physical contact and talk to him to</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
help him until he becomes completely awake.

3 Use morning schedule of routine tasks: (a) after child wakes up; and (b) after each subroutine is completed and before the next subroutine.

5 Provide choice opportunities

6 Arrange environment so that it becomes more difficult for child to leave an assigned area

<table>
<thead>
<tr>
<th>Preventative Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Use verbal and/or visual positive contingency statements</td>
</tr>
<tr>
<td>2 Provide safety signal</td>
</tr>
<tr>
<td>3 Use effective requests</td>
</tr>
<tr>
<td>4 Provide toys to occupy daughter while assisting son</td>
</tr>
<tr>
<td>5 Mother remains at table during breakfast.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Use whole task instructions</td>
</tr>
<tr>
<td>2 Use functional communication training</td>
</tr>
<tr>
<td>3 Gradually increase delay in (a) the delivery of requested item, activity, break, or help’ or (b) obtaining parent attention following an appropriate request from the children.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Provide praise and/or small treat contingent on doing desirable behaviour in the morning routine: (a) engaging in steps of subroutine; (b) complying to requests; (c) accepting denial of request; and (d) waiting and/or playing nicely while mother is busy</td>
</tr>
<tr>
<td>2 When children request for what they want, immediately provide them with it</td>
</tr>
<tr>
<td>3 If the children engage in minor problem behaviour, (a) actively ignore and redirect back to task; (b) prompt them to use language and then honor request; (c) once language is firm, use safety signal</td>
</tr>
</tbody>
</table>
If the children engage in moderate to high intensity problem behaviour,

- For escape motivated behaviour: (a) remain calm; (b) block child from leaving assigned area; (b) if possible, put child through task step; (c) if not possible, wait until child calms down; (c) say, *when calm we continue;* (d) when child is relatively calm, continue task by physically assisting them to do task step; (d) after task step is completed, prompt to ask for break if needed; (e) give child a brief break (10-30 seconds); and (f) return to completion of subroutine.

- For tangible-motivated behaviour: (a) remain calm; (b) *actively ignore the children’s problem behaviour* until they calm down; (c) withhold the delivery of the item for the rest of the morning.

- For attention-motivated behaviour: *actively ignore the children’s behaviour* and while minimizing attention, redirect children to appropriate behaviour for the situation.

<table>
<thead>
<tr>
<th>Social Validity</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Stress level</td>
<td>High Moderate Low</td>
</tr>
<tr>
<td>2 Perception of Improvement</td>
<td>Little Moderate A lot</td>
</tr>
</tbody>
</table>