Transition to School from Autism Specific Early Learning and Care Centres

FINAL REPORT – PART 1 AND PART 2

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January 2017

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Australian Government
Department of Industry, Innovation and Science
Business Cooperative Research Centres Programme

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ISBN: 978-0-9953735-1-8

Copies of this report can be downloaded from the Autism CRC website autismcrc.com.au

Suggested citation: Marsh, A. & Eapen, V. (2017) *Transition to School from Autism Specific Early Learning and Care Centres, final report Part 1 and Part 2.* Cooperative Research Centre for Living with Autism, Brisbane, Queensland.

Acknowledgements

The authors acknowledge the financial support of the Cooperative Research Centre for Living with Autism (Autism CRC) established and supported under the Australian Government's Cooperative Research Centre Program and the Department of Social Services. Staff and non-staff in kind were provided by Autism CRC participants.

The Cooperative Research Centre for Living with Autism (Autism CRC)

The Cooperative Research Centre for Living with Autism (Autism CRC) is the World's first national, cooperative research effort focused on autism. Taking a whole of life approach to autism focusing on diagnosis, education and adult life, Autism CRC researchers are working with end-users to provide evidence-based outcomes which can be translated in to practical solutions for governments, service providers, education and health professionals, families and people with autism.

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ASELCC Transition Project

Transition to Primary School for Children on the autism spectrum: Updated Literature Review – Part 1

The following literature review focuses on the available evidence regarding strategies and activities that can support effective and successful transition to primary school, specifically for children on the autism spectrum.

Literature review

Starting school is a major event in any child's life (Quintero & McIntyre, 2011) and the transition to primary schooling is recognised by the NSW Department of Education and Training as "*one of the most significant transition points in a person's life*" (NSW Public Schools, 2014). An increasing body of evidence supports the notion that children who have a positive start to school are likely to engage well and experience academic and social success (Denkyirah & Agbeke, 2010; Forest et al., 2004). However, for children with disabilities this transition can be particularly challenging (Quintero & McIntyre, 2011) and may be even more difficult for children on the autism spectrum. The unique social, communication and behavioural deficits that children on the spectrum experience with their disability may present additional barriers to a positive start to school (Denkyirah & Agbeke, 2010; Forest et al., 2004), particularly, as teachers rate social skills as more important than academic skills for successful school adjustment (Fontil & Petrakos, 2015).

In the school transition literature for typically developing children a successful start to school is considered to have occurred when children feel secure and comfortable in the new school environment; want to attend school; display increased academic and social skills, increased independence; engagement and motivation to participate in class and school activities, academic progress, positive relationships with peers and teachers; and have developed positive attitudes and feelings about school and learning, and a sense of wellbeing, belonging and inclusion (Hirst et al., 2011). Barriers to successful school adjustment include externalising behaviours, poor self-regulation, distress and school avoidance (Hirst et al., 2011). As, children on the spectrum have a greater risk of poor school outcomes, including emotional and behavioural problems (Fleury, Thompson, & Wong, 2015), bullying (Sterzing, Shattuck, Narendorf, Wagner, & Cooper, 2012) school exclusion (Donno, Parker, Gilmour, & Skuse, 2010) and peer rejection (Rotheram-Fuller, Kasari, Chamberlain, & Locke, 2010), it is critical that the protective factors, as well as the barriers, for a positive transition for children on the spectrum are understood and identified (Denkyirah & Agbeke, 2010; Forest et al., 2004).

Research on typically developing children also tells us that the planning and preparation starts well before the child enters primary school, with preparation beginning at pre-school age to determine if a child is 'ready' for school, a concept described as 'school readiness'.

Typically, the focus has been on the child '*gaining competence'* in a range of areas; emotional, behavioural, social and academic (Britto, 2012). While a number of studies have examined preschool aged children on the autism spectrum and competence in these specific areas, few studies have specifically examined school readiness in autism. Nor have they linked developing these skills specifically to prepare children on the spectrum, for primary school. This definition also suggests that successful transition depends solely on the child's capabilities and qualities, however, it is also important that schools are ready for children on the spectrum, and that the families are also prepared for this transition (Britto, 2012). Actively involved parents with good relationships with teachers assists greatly in ensuring a smooth transition to school for typically developing children (Hirst et al., 2011). Therefore, it is important to obtain multiple perspectives from parents and teachers to establish good practices, as well as identifying factors related specifically to the children themselves.

For this transition process to be successful intervention and support needs to go beyond the preparation stage and continue on after school entry. Decades of research has demonstrated the positive effects of early intervention programs for children on the spectrum, and also the success of later intervention programs for school-aged children, yet substantially less research has specifically evaluated *school-based* interventions (Grindle et al., 2012a); (Kamps et al., 2015). Additionally, much of this research has focused on the later years and not the critical transitioning to school period in the first years of primary school (Kamps et al., 2015). Finally, for children on the spectrum, interventions targeting socialisation and communication skills are critical, so developing school-based programs targeting a range of skills development; academic, behavioural and social, is critical to a successful start to school for these children. However, in order to develop evidence-based programs first we need to establish what aspects of current school-based interventions have been successful to date at targeting a wide range of skills and behaviours.

The global trend of inclusion of children with disabilities in mainstream general education settings present additional challenges for children on the spectrum, (Ferraioli & Harris, 2011); (Dillon & Underwood, 2012). While an increasing number of children on the spectrum, are included in mainstream public school classrooms, the majority still receive their pre-schooling in special education environments (Australian Bureau of Statistics, 2012). Given the differences between specialised preschools and public schools are great, and that children on the spectrum, present with a unique cluster of difficulties, including difficulty adapting to new environments, the transition between such educational settings represents an important challenge for children on the spectrum, their families and schools. Therefore, children on the spectrum require comprehensive and individualised transition plans specifically tailored to suit their needs (Quintero & McIntyre, 2011). Unfortunately, current guidelines for inclusion of children on the spectrum in mainstream education settings are not based on well-developed theory and research (Ferraioli & Harris, 2011). While there has been considerable research undertaken on typically developing children's transition to primary school, there is a paucity of empirical studies that examine transition to school for children on the spectrum (Eisenhower et al., 2015); (Fontil & Petrakos, 2015)).

There is great need to establish and consolidate the current evidence on how and when children on the spectrum, are ready for school, what supports these children, their families and their schools need, what the specific interventions and individual factors are for children on the spectrum, to ensure a positive start to school. Despite agreement that the transition to primary school is a critical period for children on the spectrum, for positive long-term school and after school outcomes there is little quality research with adequate sample sizes and randomized controlled designs on this transition to primary school for children on the spectrum (Eisenhower et al., 2015). Additionally, while the research available is disseminated, there is a lack of synthesis of the available evidence that means that strengths and weaknesses in our current knowledge base are not readily apparent. This is problematic for the end users of research, such as policy makers, practitioners, teachers, schools and families and their children. Identifying the barriers and enablers to successful transition to school is needed to develop specialised interventions, guidelines and policies to aid successful school transition for children on the spectrum. Therefore, in this report we will review the existing, limited research on preparation and transition to primary school for children on the spectrum. In particular, what interventions currently exist for successful school transition for children on the spectrum and what are the experiences and individual factors of children on the spectrum, their families and their teachers that also make transition to school a success.

School Readiness

Fortunately, much work has been done to establish early intervention programs prior to school entry that are producing positive outcomes (Denkyirah & Agbeke, 2010**;** Esienhower et al., 2015), and a substantial amount of research has demonstrated significant gains in intellectual and behavioural functioning are possible with these programs (Sparapani, Morgan, Reinhardt, Schatschneider, & Wetherby, 2016). However, little is known about how these intervention programs adequately prepare children on the spectrum for school and whether these gains persist through the school years (Sparapani et al., 2016). There have been a number of studies examining interventions that target a broad range of skills that may assist children on the spectrum, to be school ready. Fleury, Miramontez, Hudson, and Schwartz (2014) undertook a systematic review of the literature to identify studies that targeted school readiness behaviours that may impact on academic skill development. Fleury et al. (2014) concluded that while outcome variables were inconsistent across the studies they could still be characterised into three separate categories; *classroom behaviour, social-communication skills, and challenging behaviours.* Additionally, most studies only targeted behaviours in one of these categories and a broad range of interventions were used to target these behaviours. Nonetheless, Fleury, Thompson, and Wong (2015) concluded that 18 evidence based intervention programs could be identified (e.g. modelling and reinforcement) targeting behaviours of children on the spectrum, such as their improving ability to engage in the classroom or social behaviours, and reducing challenging behaviours. Additionally, the majority of the studies identified were case studies with a small number of single-subject studies. Finally, a number of these studies used interventions, such as touch therapy, that are currently not evidence based. Not only were

the studies identified limited in their research quality they also did not specifically target school readiness and did not specifically prepare preschool aged children for school.

Only two empirical studies were found in the literature that examined interventions that specifically prepared children on the spectrum, for school targeting a range of skills and behaviours. An older study by Lanquetot (1989) explored peer modelling in pre-schooled aged children on the spectrum, in a Hospital Nursery with the aim of increasing school readiness behaviours, such as the ability to function in groups, follow directions and attend to tasks, as well as improving academic skills and reducing challenging behaviours. Children were randomly allocated to a four-week intervention letter recognition program. In the experimental group typically developing children were present and also engaging in the letter recognition task, while children in the comparison group had no interactions with their typically developing peers. Children in the experimental group appeared to benefit across a range of areas with cooperative behaviours improving, and aggressive and autistic behaviours diminishing. However, the peer modelling aspect of this study only occurred for a two-week period and improvements in behaviour for the children on the spectrum, were not measured using standardised measures. Observations were only made during the intervention sessions and the modelling sessions were in pairs and not groups, therefore, these improvements may not generalise to the group environment of a classroom.

Waddington and Reed (2009) was the only study found that looked at an intervention, the *Preschool Inventory of Repertoires for Kindergarten* (PIRK; Greer & McKorkle, 2003 as cited in (Waddington & Reed, 2009)) that specifically prepares children on the spectrum for school. Waddington and Reed (2009) study examined if this intervention was successful in transitioning children to primary school. Their study investigated whether using the PIRK teaching program impacted children on the spectrum's skills and behaviour and enable them to transfer from special to mainstream schools. Children's progress in the PIRK program, a program based on Applied Behaviour Analysis (ABA) targeting individual children's specific curriculum deficits, was compared with the progress of children on the spectrum in an education as usual group, which had eclectic intervention approaches. Children in the PIRK program improved in a range of areas; communication, and daily living skills as measured by a range of standardized measures. Importantly these improvements continued in mainstream school and facilitated the transition process for these children. However, the children's social skills did not appear to improve as a result of the PIRK program. It should also be noted that the groups were not randomly allocated and the outcome data, while from standardized measures was based on parental reports with no observational data. Finally, this study examined children on the spectrum from a range of ages, from school to year 2, in special preschools and primary schools moving to mainstreams schools, and was not specifically focused on the transition to the first year of primary school. More research on school readiness for children on the spectrum transitioning to their first year of primary school is needed to gain a better understanding of the specific foundational skills required to participate in classroom activities, beyond the general social and academic skills focus of early intervention programs (Fleury et al., 2015).

Parents' & Teachers' School Transition Expectations & Experiences

Conventionally, in the literature, a child's school readiness is considered to depend on characteristics and qualities that reside within the child, as discussed above. These child-focused definitions of school readiness place the responsibility for readiness within the child (Hirst, Jervis, Visagie, Sojo, & Cavanagh, 2011) and imply that there is a set of capabilities children must achieve in order to start school (Hirst et al., 2011). As parents, carers and teachers play a vital role in children's successful adjustment to school and there is solid body of literature looking at the experiences and expectations of parents and teachers of typically developing children (Fontil & Petrakos, 2015; Quintero & McIntyre, 2011). While parents, carers and teachers of typically developing children share many of the concerns and expectations relating to children's transition to school, their focuses can differ. Parents' focus tends to be more on academic progress, while teachers rate social skills as more important than academic skills for successful school adjustment (Fontil & Petrakos, 2015). For children on the autism spectrum who experience social and communication deficits (Denkyirah & Agbeke, 2010; Forest et al., 2004), the support of parents, carers and teachers is even more crucial. Parents, carers and teachers need to also be prepared for children on the spectrum to enter the school system. But as we know from research of typically developing children parents and teachers may have different foci, therefore, it is very important that the views, opinions and expectations are obtained from all of the relevant stakeholders.

Recently, there have been a number autism-specific studies investigating the perspectives o teachers and parents of children on the spectrum on particular transition practices. The elements for a successful transition identified in the literature were fairly consistent in all these studies (Beamish, Bryer, & Klieve, 2014; Denkyirah & Agbeke, 2010; Forest, Horner, Lewis-Palmer, Todd, & McGee, 2004; Quintero & McIntyre, 2011), and centred around the following themes: *"child visit, parent information, teacher sharing, placement identification, decision support, sending teacher, support identification, evaluation administrator, visit support,* and *peer preparation"* (Beamish et al., 2014, p. 135; see Appendix). These studies have also consistently found that parents, carers, preschool teachers and primary school teachers strongly endorse all of these practices for transitioning children on the spectrum into primary school (Beamish et al., 2014; Denkyirah & Agbeke, 2010; Forest et al., 2004; Quintero & McIntyre, 2011). Unfortunately, while all the relevant stakeholders consider these practices important, teachers report that fewer practices are actually implemented (Fontil & Petrakos, 2015; Forest et al., 2004). The most comprehensive study to date investigating parents' and teachers' experiences of school transition of children with disabilities including autism was undertaken by Quintero & McIntyre (2011). They surveyed 96 parents and teachers of children with disabilities, 19 of whom were on the spectrum. They found that teachers had substantially more concerns about children on the spectrum transitioning to school than they did for children with other disabilities. While parents and teachers, particularly preschool teachers, were highly involved in the transition process for all children with a disability, transition practices were generic and rarely individualised to the child's particular needs. Also, parents reported school teachers engaged in some settling practices at the beginning of the school year they did not implement transition practices *per*

se with on-going transition programs or regularly meetings rarely occurring (Quintero & McIntyre, 2011). Guidelines and policies for children on the spectrum need to allow for the heterogeneity of symptoms and go beyond the preparation stage extending into the first years of school.

One particular transition process highlighted in the literature, as being particularly important, is regular and detailed communication between the relevant stakeholders. Unfortunately, Quintero and McIntyre (2011) demonstrated that this process was not occurring between preschool staff and school teachers. Preschool teachers reported concerns about the lack of collaboration with school staff for children with disabilities leading up to school entry and during the transition process. Equally important is parent-teacher communication. From the literature of typically developing children's transition to school it has been reported that the partnership and close working relationship with parents and carers is critical for successful transition. Pianta and Kraft-Sayre (2003) suggested that positive relationships between school staff and parents and carers enable teachers to provide information that is valued and supportive. Ideally relationships are initiated before the child begins school as some parents and carers have reported that they find it helpful to get to know the teacher before their child moves into primary school (Pianta & Kraft-Sayre, 2003). Unfortunately, while research in this area for children on the spectrum is limited, there appears to be a dramatic decrease in parent-teacher communication school, as well as this contact being more negative compared to the supportive environments of specialized preschools (Fontil & Petrakos, 2015). Therefore, the differences between preschools and mainstream primary schools are heightened for parents of children on the spectrum as explanatory communication and collaborative decision-making occurs frequently between parents and carers in specialised preschools. These changes in communication may be particularly difficult for children on the spectrum and their families.

Individual Factors Affecting School Transition for Children on the Spectrum

School Engagement

Children on the spectrum experience prominent social and communication deficits and behavioural difficulties associated with their disability, and these difficulties can present unique learning and adjustment challenges (Sparapani et al., 2016). The transition to the more independent and academic environment of primary school can be particularly challenging for these children. Therefore, it is important to establish their level of functioning as they enter the school system and to monitor their developmental and behavioural progress (Charman, Howlin, Berry, & Prince, 2004). Charman et al. (2004) assessed the functioning of children on the spectrum on entry to school and then again at the end of their first year using two standardised parent questionnaires. They found that as a group the children's symptom severity did not change over the first year regardless of educational setting. Encouragingly, their language and communication improved, but there was no improvement in their sociability, sensory issues, cognitive development, or behaviour. In terms of the individual characteristics associated with change over time,

children with higher communication skills and lower symptom severity made more positive changes in their daily living skills in their first year of school.

The social and communication difficulties and the sensory and repetitive behaviours that children on the spectrum experience mean that these children face additional challenges when trying to engage in the classroom (Sparapani et al., 2016). In typically developing children we know that a substantial barrier to a successful school start is poor school engagement, student-teacher relationships and peer relationships. Having difficulty with regulating behaviour and emotions is not a difficulty unique to children on the spectrum and research on typically developing children and children with other disabilities has shown that poor self-regulation is a definite barrier to successful school transition (Jahromi, Bryce, & Swanson, 2013). Having good self-regulation assists in almost all aspects of the school environment; adequately engaging in class (Sparapani et al., 2016), academic competence (Swanson & Reiser, 2008 as cited in (Jahromi et al., 2013), and better peer acceptance (Valiente, Swanson, & Lemery-Chalfant, 2012 as cited in (Jahromi et al., 2013). Even children on the spectrum who are high functioning have difficulty regulating their emotions and behaviour. Understanding this process in these children in the early years of their schooling is critical to assisting them to adjust to the school environment (Jahromi et al., 2013). Jahromi et al. (2013) explored individual differences in self-regulation in 20 children on the spectrum compared with 20 of their typically developing peers, and how self-regulation related to their school and peer engagement in the first year of school. Prior to starting school children's self-regulation and autism symptoms were assessed using clinical assessments and parent-report questionnaires, then parents completed further follow-up questionnaires at the end of their child's first year to assess behaviour at school. Jahromi et al. (2013) found that children on the spectrum had significantly less emotion regulation and effortful control than their typically developing peers. They also scored lower than their typically developing peers on many important components for school success, such as, cooperative and independent class participation, and prosocial peer engagement. While children on the autism spectrum did not avoid school any more than their typically developing peers they were reported to like school significantly less. As a positive school adjustment is fundamental to later school success among typically developing children and attitudes towards school are formed early in the transition process and persist over time, this has critical implications for later learning (Fredricks et al., 2004 as cited in Jahromi et al., 2013). Therefore, Jahromi et al. (2013) study suggests that these issues are equally important for children on the spectrum and ensuring these children receive appropriate interventions and assistance focused on self-regulation prior to starting school and during this first year is vital. In relation to individual protective factors, both typically-developing and children on the spectrum who were more emotionally invested in school (i.e., who liked school), were also those who demonstrated greater behavioural participation in the classroom and greater prosocial behaviours with peers in this setting. Specifically, for children on the spectrum effortful control promoted greater prosocial behaviour with peers, possibly indicating an individual proactive factor these children in their peer relations.

Most studies examining school engagement of children on the spectrum have focused on very specific academic tasks, and not their general school engagement. Also very few

focus on the early years of schooling. As children on the spectrum experience a range or varied behavioural and social challenges that interfere with their engagement in school it is important that an extensive range of skills and behaviours are examined. For example these children often experience sensory issues that make it difficult for them to tune out irrelevant information, interfering with their active engagement. They also have difficulties with joint attention, social connectedness, communication, and restricted and repetitive behaviours which all may interfere with active participation in classroom activities and moving between tasks (Sparapani et al., 2016). A recent study by Sparapani et al. (2016) developed a more generalised measure, *Classroom Measure of Active Engagement (CMAE)* of active classroom engagement that addressed 5 areas; *emotion regulation, classroom participation, social connectedness, initiating communication, and flexibility* (Sparapani et al., 2016, p. 787). This measure was used during one hour monthly observations of children on the spectrum in kindergarten to first grade to assess general engagement. Sparapani et al. (2016) also examined individual characteristics of these children, measured by a battery of standardised measures. There were no differences found on any measure between the different age groups. Also, being in a special education program did not improve active engagement for children on the spectrum and there were no differences found between children in general education programs and special education classes. Sparapani et al. (2016) reported that the children had substantial difficulties with active engagement in class. During observations they spent less than half of the time in an emotionally-regulated state, being time productive and independently participating in classroom activities. Children rarely directed communications or used generative language and were only able to shift their attention to new tasks following verbal requests about 50% of the time. One area where they showed greater flexibility was shifting to different materials that they managed more frequently during observations. Children with better social skills, measured using the Social Skills rating System (SSRS; Gresham and Elliott, 1990), had more positive active engagement in almost all areas measured. While externalising behaviours and higher repetitive and restricted behaviours was associated with less flexible classroom behaviour. Therefore, as a group children on the spectrum had much difficulty with active classroom engagement, and children with fewer social skills, more repetitive and restrictive behaviours, and more externalised behaviours had the most difficulty with active engagement.

Student-Teacher Relationships

Another area important factor to positive adjustment to school in the early years is a good student-teacher relationship. Studies in this area for children on the spectrum is again quite limited. In a systematic review undertaken by Eisenhower, Bush, and Blacher (2015), only seven empirical studies were found that examined the quality of student-teacher relationships in children on the spectrum. Eisenhower, Bush, et al. (2015) reported that these studies indicated that children on the spectrum had substantially higher conflict and lower closeness with their teachers than their typically developing peers and their intellectually disabled peers (Blacer et al., 2014; Locke, 2010; Longobardi et al., 2012; Prino et al., 2014 as cited in (Eisenhower, Bush, et al., 2015). Some of these studies indicated that these poorer student-teacher relationships were related to child-factors such as;

problem behaviour (Breeman et al., 2014; Brown & McIntosh, 2012; Eisenhower et al., 2014; Howell, 2014; Robertson et al., 2003 as cited in Eisenhower, Bush, et al., 2015), emotional adjustment (Breeman et al., 2014 as cited in Eisenhower, Bush, et al., 2015), and social cognition and responsiveness (Howell, 2010 as cited in Eisenhower, Bush, et al., 2015). Eisenhower, Bush, et al. (2015) suggested from the typically developing literature that there were a range of factors that may promote more positive student-teacher relationships, such as higher cognitive functioning and parent involvement and that teacher-competence may also predict the quality of the student-teacher relationships.

As reported by Eisenhower, Bush, et al. (2015) there is some suggestion with typically developing children that a poor student-teacher relationship has a bidirectional relationship with poor-self-regulating and externalising behaviours (Eisenhower, Blacher, & Bush, 2015). They also examined the relationship between student–teacher relationship quality and externalizing behaviour problems for children on the spectrum in the first years of school. They found that children on the spectrum appeared to have poorer student-teacher relationships than those reported among typically developing children. However, importantly, their study suggested that the relationship between student-teacher relationships and externalising behaviours in children on the spectrum might not be bidirectional. As children in their study continued to have poor student-teacher relationships in new classrooms with new teachers, this may suggest that the children's behaviour might be the more significant contributor to the student-teacher problems. Therefore, interventions targeting externalising behaviour may also improve student-teacher relationships.

School-Based Interventions

While limited, the research on children on the spectrum indicates that these children have a number of risk factors affecting their adjustment to primary school, suggesting a need for school-based interventions to assist in their transition. There have been a number of recent studies examining the effectiveness of school-based interventions in the first year of school for children on the spectrum. Eikeseth, Smith, Jahr, and Eldevik (2002) evaluated an ABA-based educational intervention for children on the spectrum in mainstream kindergarten and primary school settings. Thirteen children received 28 hour per week of ABA-based intervention compared with 12 children who received 29 hour per week of eclectic education interventions. Children were assessed after 1 year of the intervention and they found that children in the ABA-based intervention group experienced substantial improvement in their IQ and adaptive behaviour, but this intervention was not effective in improving socialization. These gains were significantly larger than the changes for children in the eclectic group who experienced a small increase in IQ and no change in adaptive behaviour. Children remained in their intervention programs and were assessed again when they were 8 years of age. During this time, the gains continued for the children in the ABA-based intervention group were significantly larger than those for children eclectic education group. Therefore, this study proposed that a school-based behavioural intervention program can assist children on the spectrum with their learning and adaptive functioning in their first years of school, however this behavioural program did not appear to assist with children's socialization.

A number of other studies have investigated the impact of school-based programs with similar findings. Studies by Locke, Rotheram-Fuller, Xie, Harker, and Mandell (2014) and Pellecchia et al. (2016) evaluated the effectiveness of another ABA-based behavioural school-based intervention program called Strategies for Teaching based Autism Research (STAR). This program was a manual-based comprehensive treatment program for children on the spectrum comprising three processes: *discrete trial training, pivotal response training, and teaching within functional routines* (Pellecchia et al., 2016, p. 322). This program also targeted language, academic, social skills, and adaptive daily living skills. Teachers were given intensive training and on-going consultation throughout the study and their implementation of the program was regularly monitored (Mandell et al., 2013 as cited in Pellecchia et al., 2016). This was a single-subject design with children enrolled in 1 of 53 kindergartens through to year two autism support classrooms. Locke et al. (2014) evaluated the intervention and found that while children in the program had a modest improvement in their cognitive abilities there was no improvement in their social functioning. Pellecchia et al., 2016 looked at what child characteristics were associated with these cognitive gains. They reported that children in the program with social anxiety symptoms, such as social avoidance and social fearfulness, made the least gains in their cognitive abilities. As comorbidity of ASD and anxiety is common, the authors suggested that this finding has important implications for identifying children at risk of poor school adjustment and the need to focus on anxiety in school-based intervention practices.

The theme throughout these studies is that many behavioural programs in specialist classes are less successful in the development of social skills and socialisation for children on the spectrum, and that this is an important factor in school engagement.

Inclusion with typically developing peers may assist in improved socialisation. Sainato, Morrison, Jung, Axe, and Nixon (2015) examined a school-based intervention centred on full inclusion of children on the spectrum with their typically developing peers without individually assigned teaching aides. They developed a *model* kindergarten classroom that consisted of about seven children on the spectrum and at least an equal number or greater typically developing peers, with children on the spectrum participating in all general education activities with efforts to minimise any individualised intervention, such as speech therapy, outside of the classroom. The class environment was organised to support a wide range of diverse learning needs and all children, on the spectrum and typically developing, experienced the same learning environment, curriculum and behaviour management. Teachers from model classrooms were fully trained and provided with on-going support. The progress of 41 children on the spectrum from model classrooms progress was compared with 21 children on the spectrum attending mainstream kindergarten classes. Children on the spectrum in the model classrooms made significant gains in a number of areas including performance IQ, academic achievement and language, while children in the comparison group either did not improve or in some cases their scores decreased. However, again, there were no significant differences between the groups in adaptive behaviour and socialisation.

There appears to be a particular challenge in improving socialisation and peer inclusion for children on the spectrum in these behavioural interventions, even when children are fully included in classes with their typically developing peers. This may indicate that children on the spectrum need more than instruction and behavioural intervention in school-based intervention to improve their socialisation and inclusion with their peers. Another ABA-based school-based intervention program in the first years of school was evaluated by (Grindle et al., 2012b). This program specifically focused on targeting socialisation in the second year of the intervention. Eleven children on the spectrum were in ABA supported classrooms which approximated the mainstream timetable and children interacted with their typically developing peers during breaks and participated in the extra-curricular activities with their peers. This program allowed for multiple, daily opportunities to target inclusion for these children with their typically developing peers and mainstream teachers. The progress of these children was compared to 18 children at other schools, mostly special schools, receiving eclectic intervention. Children in the ABA-based intervention group made considerable gains in almost all areas except for socialisation in their first year. However, the focus of the intervention shifted in the second year to socialisation and communication with the majority of children spending more time in mainstream classrooms. For children in the ABA-based program daily living skills and socialisation skills improved substantially in the second year, while their IQ remained stable. Overall, children in the ABA-based intervention made significantly more progress in their daily living and socialisation than children in the comparison group, however, there was no significant difference between the groups in academic progress. Nevertheless, even after two years in the intervention program children on the spectrum remained predominately in the specialised support classrooms only spending at most 6 hours a week in mainstream classes.

Consequently, it seems that children on the spectrum may require more than instruction and inclusion to improve their social skills and interactions with their typically developing peers. There have been a number of studies that have shown that a combination of direct instruction and peer-mediated approaches have successfully improved the interactions of children on the spectrum with their peers, however, very few have been school-based (Kamps et al., 2002; Thiemann & Goldstein, 2001, 2004; Wolfberg et al., 2014 as cited in Kamps et al., 2015). Kamps et al. (2015) conducted a randomised controlled study that verified the effectiveness of a school-based intervention in the first year of school combining direct instructions with peer training on improving the social communication, language and adaptive communication skills of children on the spectrum. These children were allocated to either a socialisation intervention, which included social skills instruction with peer models implemented by trained school staff in a mainstream setting (N=56), or children received general special education services that did not include a socialisation component (N=39). Children from the intervention group were observed in natural settings to make more social initiations and increased frequency of communication with their peers than children in the education as usual group. Children in the intervention group also appeared to make greater gains in all areas of their language, communication and social skills than children in the comparison group. Therefore, it appears that children on the spectrum may make the greatest gains in their socialisation when they have direct and structured interactions with the typically developing peers that generalise out to other settings.

Discussion

Currently, there is a lack of systematic longitudinal studies evaluating the success of evidence based school transition programs for children on the spectrum There are number of reasons for this. First, research on the school transition process for children on the spectrum is sparse and disparate, particularly in relation to school readiness. Only one study specifically examined a school readiness intervention program based on ABA. This study suggested that behavioural based intervention programs in preschool may not provide children on the spectrum with the social skills they need to socialise with their peers in primary school. This was also evident in school based intervention programs in the early years of school. These behavioural and instructional school–based intervention programs appear to improve skills in a number areas for school success, such as leaning and cognition, behaviour and adaptive living skills, however, do not appear to target peer inclusion and socialisation. It appears, from this one study, that there may need to be a peer modelling element to school readiness interventions and continuing to school-based interventions in the first year for children on the spectrum to help them to have more positive relationships with their peers and improve their socialisation, as well as the behavioural interventions for all other areas.

Children on the spectrum present with unique social and communication deficits and behavioural difficulties and these difficulties can present unique learning and adjustment challenges (Sparapani et al., 2016). However, few studies have specifically investigated the impact of these difficulties on transitioning to school and engaging in the school environment. The few studies that have suggest that as anticipated children on the spectrum have poorer relationships with their teachers, have poor self-regulation and have difficulty being actively engaged in the classroom. This literature also established some individual child characteristics that may identify risk factors for poorer transition to school. Children with more repetitive and restricted behaviours, social anxiety, less effortful control, fewer social skills, or who liked school less had the most difficulty in settling in and engaging at school. Therefore, this also indicates the need for on-going school based interventions, but also that these programs should be individualised to the child's particular needs.

Implications for School Transition Best Practice

To date no studies have specifically evaluated the success of a school transition program specifically for children on the spectrum. However, the survey studies that have sought the opinions of parents and teachers on the best practice for school transition identified a number of key areas:

- transition team established;
- parent involvement in planning;
- child and parent visit to school;
- visit support
- placement identification;

- parent communication and information;
- teacher sharing between preschool and school teacher;
- child preparation (e.g. social stories)
- decision support;
- support identification;
- transition administrator to supervise and evaluate the transition; and
- peer, classroom and school preparation (Beamish et al., 2014).

The authors of these studies identified these relevant practices from the literature as well as government guidelines. In Australia, all the states recommend school transition practices, some generally for all children and some for children with disabilities (Queensland, New South Wales, South Australia); however, no states specifically target children on the spectrum. Many of these policies and guidelines overlap with the opinions of teachers and parents, however, these transition practices are generic and rarely individualised to the child's particular needs *(Quintero & McIntyre, 2011)*. As can been seen from this review, children on the spectrum experience specific social, behavioural communication difficulties that result in them being particularly vulnerable regarding poor school transition outcomes. Additionally, teachers are more concerned about the ability of children on the spectrum to successfully transition to school than other children with disabilities. Therefore, children on the spectrum require comprehensive and individualised transition plans specifically tailored to suit their needs (Quintero & McIntyre, 2011). However, there are elements that should also potentially be incorporated into all transition plans for children on the spectrum based on the current evidence. For example, while children's learning and academic development is currently monitored in most Australian schools through learning plans, monitoring of social skills, communication and behaviour may not be adequately monitored. Therefore, transition plans for children on the spectrum should include regular monitoring and evaluating of a broad range of areas such as: active engagement, socialisation and student-teacher relationships. Also, behavioural interventions with peer modelling may need to be incorporated into transition plans for these children. Finally, these programs need to be developed and implemented while children are in preschool and continue through the first year of school.

Implications for Future Research

There is a paucity of empirical studies that examine transition to school for children on the spectrum particularly in longitudinal monitoring from specific school readiness preparation through to the end of the first few years of school (Eisenhower et al., 2015). While a number of recent studies have examined specific school-based interventions, existing research on the process of primary school transition has tended to adopt cross-sectional survey based methodology (Fontil & Petrakos, 2015; Forest et al., 2004; Denkyirah & Agbeke, 2010; Beamish, Bryer & Klieve, 2014) rather than longitudinal designs with specific measurement of children's social-emotional, adaptive, and cognitive/academic progress. A large number of school transition practices has been identified and endorsed from these

survey studies; however, the adequacy of these practices has not been established. There is a need for further research aimed at developing evidence-based strategies to enhance the school transition process and these strategies need to be formulated into guidelines and policies specifically for children on the spectrum due to their unique needs and difficulties. Additionally, while the academic progress of children is monitored through systems such as learning plans, for children on the spectrum a more systematic monitoring of developmental and behavioural progress, using standardised instruments is also needed to measure the effectiveness of well-developed, evidence-based individualised, long-term transition programs (Charman et al., 2004).

Table 1: Practices for Transitioning Children on the Autism Spectrum to School

Practice Item	Practice Description	Reference
Initial planning		
Team establishment	Transition team (parents and sending program staff) is established; Parents critical member of transition planning team	Beamish, Bryer & Klieve (2014); Quintero & McIntyre (2011)
Parent information	Parents are provided with information about the transition process and available program options	Beamish, Bryer & Klieve (2014); Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015); Quintero & McIntyre (2011)
Parent-parent support	Parents have access to a key person (e.g., veteran parent) to support them through the transition process	Beamish, Bryer & Klieve (2014); Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015)
Placement identification	School placement options (regular school, special school, specialised program) are identified	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Timeline	Initial transition timeline is created	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Team responsibilities	Contents of initial transition timeline include roles and responsibilities of team members	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Transition coordinator	A team member is identified as the transition coordinator	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Preparing child and family		

Practice Item	Practice Description	Reference
Planning visits	The transition coordinator arranges classroom visits to placement options	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Visit support	Parents and sending/preschool teacher visit multiple placement options at least one time, including meeting with school teacher and other key school staff	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015); Quintero & McIntyre (2011)
Parent Support Network	Parents meeting with other parents from kindergarten class and school	Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015); Quintero & McIntyre (2011)
Family assessment	Families‘ needs related to transition are assessed and addressed	Beamish, Bryer & Klieve (2014)
Decision support	Parents are supported in making their decision for selecting a specific School placement	Beamish, Bryer & Klieve (2014)
School placement selected	Specific school placement is selected	Denkyirah & Agbeke (2010); Forest et al. (2004)
Formal plan	Transition plan is formalised	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Quintero & McIntyre (2011)
Planning steps	Transition plan includes specific steps to complete the transition	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)

Practice Item	Practice Description	Reference
Sending teacher visit	Sending teacher (preschool teacher) visits receiving School classroom	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Quintero & McIntyre (2011)
Receiving teacher visit	Receiving School teacher visits sending program (preschool) to observe child	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Quintero & McIntyre (2011)
Teacher sharing	Teachers (sending and receiving) share information about the child and link needs to curriculum, resourcing, and facilities	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Quintero & McIntyre (2011)
Readiness skills identification	Readiness skills needed by child to be successful in School placement are identified and developed into specific instructional goals	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Quintero & McIntyre (2011)
Readiness skills teaching	Identified readiness skills are taught to the child, and progress is monitored	Beamish, Bryer & Klieve (2014); Quintero & McIntyre (2011)
Preparing the Class		
School staff identification	Staff to work with child in School are identified	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Support staff identification	Related services needed for school placement are identified; Support staff (e.g., speech & language pathologist, occupational therapist, physiotherapist, autism advisor)	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Staff Coordinated	All staff to work with child meet and share information	Denkyirah & Agbeke (2010); Forest et al. (2004)

Practice Item	Practice Description	Reference
Social story	A social story about the transition to School is created for the child	Beamish, Bryer & Klieve (2014); Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015)
Curriculum adjustments	Adjustments to the School curriculum are identified; Instructional curriculum individualised for child identified with sending/preschool teacher	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Quintero & McIntyre (2011)
Specialised materials	Materials specific to the child‘s needs at School are created/ modified	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Daily schedule	Individual daily schedule for the child at School is created	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Environment preparation	School learning environment is made ready/ appropriate	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Peer preparation	School children are prepared for the child’s transition into the class	Beamish, Bryer & Klieve (2014)
Introduction to School Class		
Child visit	Child visits school classroom as is well supported on initial visit	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Classroom exploration	Child is allowed to explore the School classroom at times of low stress and with few expectations	Beamish, Bryer & Klieve (2014)
Staff training	Staff to work with child in School program are provided with the necessary training	Beamish, Bryer & Klieve (2014)

Practice Item	Practice Description	Reference
Increased attendance	Child's attendance at School program is gradually increased	Beamish, Bryer & Klieve (2014)
Child data	Child's file and data are sent to the receiving school administrator	Beamish, Bryer & Klieve (2014)
Skill maintenance	Arrangements for maintenance of child's existing skills and behavioural supports are put in place	Beamish, Bryer & Klieve (2014)
Support coordination	Support staff to work with child in School classroom are coordinated and monitored	Beamish, Bryer & Klieve (2014)
Follow-up Support and Evaluation		
Open communication	Communication lines are kept open between receiving and sending teachers through telephone calls, e-mails, and personal contact	Beamish, Bryer & Klieve (2014); Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015)
Evaluation of process	Parent and teachers (receiving/school and sending/preschool) evaluate the transition process	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004); Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015)
Evaluation to administrator	Evaluation of transition is passed on to administrator, who is responsible for transition planning	Beamish, Bryer & Klieve (2014); Denkyirah & Agbeke (2010); Forest et al. (2004)
Monitoring Child's Adjustment and Progress		
Academic development	Monitor and evaluate child's academic interests and progress	Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015); Quintero & McIntyre (2011)

Practice Item	Practice Description	Reference
Behaviour & Engagement	Monitor and evaluate child's behaviour (liking school, classroom engagement, self-regulation, externalising or internalising problems, attention, motivation)	Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015); Quintero & McIntyre (2011)
Socialisation	Monitor and evaluate child's social skills, communication skills, peer inclusion and interactions	Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015); Quintero & McIntyre (2011)
Student Teacher Relationship	Monitor and evaluate child's relationship with school teacher	Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015); Quintero & McIntyre (2011)

Headings and descriptions sourced from Beamish, Bryer & Klieve (2014), p.141-142; Denkyirah & Agbeke (2010), p. 267; Forest et al. (2004), p. 109-112; Pianta & Kraft-Sayre (2003) used in Fontil & Petrakos (2015), p. 777; Quintero & McIntyre (2011) p. 415-416

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Transition to School Guidelines

Introduction

Transition to school is generally regarded as a challenging time for not only the child and the family but also to staff at the new school and any significant others involved in the child's life. Typically children on the spectrum work best when they have a clear routine but by the very nature of transitioning to a new school environment, they will face changes to the physical environment, peers, teachers and other staff, expectations for learning and play, routines, processes and rules just to name a few. Although these changes can be positive and exciting, most children on the spectrum, they will need additional support to overcome the potential difficulties in adjustment experienced during this time. Since the transition to primary school after early intervention will be the first major transition event for many children, with the potential to influence future outcomes in terms of academic outcomes, social adjustment and future transitions, it is critical to facilitate a positive experience and support the child and the family in this first step. To ensure the success of the child's transition, we therefore recommend consideration of the following key principles:

- Active, early and ongoing collaboration between a range of stakeholders
- Establishing positive and respectful relationships between the children, parents, and educators
- Active preparation of the child for transition
- Assessment of school readiness
- Implementation and regular evaluation of individualised transition plans
- Facilitation of the development of the child's skills as a learner
- Utilisation of dedicated funding and resources.

Key Principles of Effective Transitions

Active, early and ongoing collaboration between a range of stakeholders

The process of preparing a child on the spectrum for a smooth transition to school begins with the formation of an **early learning support team** or **group**. A cooperative partnership between the parents/guardians, school representatives and professionals will help to ensure coordinated support for the student's educational needs. In some states of Australia, children with additional needs such as ASD are required to have a specialized support group to qualify for special education support programmes.

Within the collaborative model of the early learning support team, all members work together towards common goals, through the sharing of information, decision making, actions and responsibilities. Collaboration within the team is built on mutual respect, trust and understanding, with the family and child at the centre of all education and welfare decisions. Their wishes must be given full consideration.

Core members of the team are those personnel who are most significantly involved in the educational decisions that are made, and may include:

- The parents and family
- An advocate, interpreter or support worker
- A staff member from the early childhood setting
- The school principal (following a request for enrolment)
- Therapists who provide services to the child
- School counsellors
- The school's special education teacher

Interpreters are essential if the family is from a non-English speaking background, to ensure that parents are able to fully comprehend and be fully involved in the transition process. Additional agencies or personnel may be available to support families from an Aboriginal or Torres Strait Islander background, such as:

- Indigenous health workers
- Indigenous education assistants
- Indigenous community liaison officers.

The team must work with and support the child and family with decision making and the development of their transition to school plan. It is the responsibility of the early learning support team to:

- Empower the family and child to share in decision making
- Identify the student's learning and support needs
- Gather and review evidence to regarding adjustments to be made to the curriculum, teaching and/or learning approaches
- Provide advice and guidance on an appropriate educational program
- Undertake personalised learning and support planning for the student
- Liaise with teachers and support the implementation of learning and support adjustments
- Determine the additional educational needs of the student and the types of resources that will meet these needs, with particular responsibility for the implementation of this falling on the principal

The early learning support team is usually formed at the beginning of the year prior to school entry, when transition to school from the early childhood setting is considered within the context of the individual family service plan. Early planning will facilitate 'readiness' of the school itself, the service providers, family and child. Membership of the team is flexible and may change over time to suit the child's changing strengths and needs.

Establish positive and respectful relationships between the children, parents, and educators

Research has described the critical role of the family and effective parenting practices and the quality of the parent-child relationship in facilitating children's academic and social competence and behaviour and wellbeing in the early years at school. Providing appropriate support and relevant information to parents and carers about the school and the range of changes their child is likely to encounter as they start school, can enhance parental confidence and improve transition outcomes. The quality of the parents' or carers' relationship with school staff and parental involvement in their child's education may also be a valid indicator of a positive transition outcome that can serve to sustain and support the child through further transition points over time (Bohan-Baker & Little, 2004).

Throughout the transition process, parents and carers need to negotiate and adapt to the new social setting, routine and changing relationship with their child (McAllister, Wilson, Green, & Baldwin, 2005), and they are likely to experience a range of emotions and reactions during this time (Dockett & Perry, 2006). Parents and carers have indicated that they need support to help them respond to these challenges (Dockett & Perry, 2007; McAllister, et al., 2005). Furthermore, supporting families as they support children has been cited as an essential aspect of successful transition programs (Dockett & Perry, 2007) because parents and carers play a central role in preparing children (Dockett & Perry, 2004a; Niesel & Greibel, 2007) and providing continuity as children experience new physical, social and educational contexts (Dockett & Perry, 2007).

Schools play a significant role during transition, in particular through providing this support to parents/carers and the child, reaching out and working in partnership with parents and carers and other key stakeholders including early childhood services. Schools provide an ideal point for families to access information and support. They are therefore well placed to refer children and parents to additional, suitable services, and as an established institution, schools provide an appropriate, non-stigmatising, and universal setting for supporting parenting. A further possibility is that schools might link parents to other parents who have had similar experiences caring for a child on the spectrum providing opportunities for families to develop support networks with other families. Families who have these sorts of positive relationships generally have lower stress levels and more positive interactions with their children (Hayden, De Gioia, & Hadley, 2003) and this in turn can lead to children having more positive education experiences (Dockett & Perry, 2008).

Schools must establish a close, working relationship with the families and their child, fostered through the parents' involvement as key stakeholders in the early learning support team. As the child gets older, they themselves may also be involved in this process. These relationships can also support schools by increasing their

understanding of children's prior experiences, strengths and needs (CEIEC, 2008). In addition, frequent, reciprocal communication and feedback between the family and the school is crucial for the ongoing evaluation of the child's Transition Plan. Regular face-to-face meetings between families and educators are recommended.

Active preparation of the child for transition

As children prepare for and adjust to the new expectations and responsibilities associated with going to school, parents and carers often observe related changes in the behaviour of their children. Children may experience stress during the transition period and respond by regressing to behaviours that are more typical of younger children, such as 'fussiness', bed wetting, thumb sucking, and subsequently may need more attention and comfort (Berne, 2003; Kostelnik, Whiren, Soderman, & Gregory, 2006; Linke, 2006).

Before starting school, it can be helpful to work specifically on some adaptive skills needed at school, introduce the child to a routine which will build up to commencing daily classes, or introduce them more generally to the school. The sorts of practices which parents might introduce in the months leading up to starting school include:

- Creating a basic daily schedule of simple daily tasks for the child to practice (e.g. brushing teeth, morning tea, nap; pictorial schedules can be particularly useful)
- Encouraging communication skills by responding to and praising all attempts, modelling appropriate language, using visuals to reinforce or support words and sentence formation, encouraging communication with a wide range of people, checking for understanding, and using a play-based approach to language, incorporating the child's interests
- Practicing getting dressed at home and independent toileting, giving consideration to a visual schedule or work system that outlines the steps in each process, and positively reinforce success with rewards
- Practicing as many skills as possible at a variety of locations, as children on the spectrum often have difficulty generalising skills learnt in one scenario to another scenario (e.g. a child may independently complete the toileting routine at home but at school they may not wash their hands as this skill was not specifically taught in the toilets at school)
- Providing opportunities for children to begin developing relationships with school staff prior to school entry
- Extending invitations for children and families to visit the formal school setting in the child's pre-school year
- Allowing for some preparation and dissemination of information via home-learning activities, including providing summer booklists and other literacy activities for the summer months prior to school entry
- Setting up visits to the school grounds on weekends to introduce children to the idea of starting school and to familiarise themselves with the physical

surroundings of the school thereby making them more comfortable with the new environment

- Setting up opportunities for children to get to know some of their peers who will be in the same class as having a familiar playmate in the same class may increase academic competence, improve social skills and reduce behavioural and adjustment difficulties in children in the first year of school

In addition, as much as possible, families and other care providers should share their excitement and the child's excitement about the new, upcoming stage in their schooling. Open communication regarding the transition should be encouraged, as should questions from the child. Parents should engage in active listening techniques that allow children to express their thoughts, feelings and concerns about starting school. This should help to relieve feelings of anxiety around schooling for both the parent and child, if the parents feel like their child is well prepared and the child feels supported.

Assessment of school readiness

The child's adjustment to school is not simply about their specific skill set, but is shaped by the relationships and interconnections formed between key stakeholders (CEIEC, 2008; Margetts, 2007b; Rimm-Kaufman & Pianta, 2000). There are complex interactions between the individual characteristics of the child (i.e., their strengths and needs) and their environment (including home, school and the wider community) and these can influence transition and adjustment to school (Dockett & Perry, 2001; Ladd, et al., 2006). It is important to recognise multiple aspects of readiness, including children's readiness and the school's readiness for and responsiveness to children with developmental differences, and the support of the family and community.

The social relationships that children form with peers, parents and teachers are the primary mechanisms through which children acquire school readiness-related competencies. When designing interventions to support school readiness, it is essential to incorporate strategies that build and strengthen relationships between children and those adults responsible for their care and education (such as parents and carers and teachers) (CCCH, 2008; Mashburn & Pianta, 2006). It is recommended that meetings between the school, families and other support workers commence in the year before the child makes their transition to school.

Schools must also strive to be 'child ready' and be able to adequately support the child's transition from home or preschool to school by creating a welcoming environment for families and children and providing adequate home–school communication both before and after the child's transition to school. They must be able to cater to the child's psychological and physical needs, perspectives and interests in order to create a sense of 'fit' with the new school environment and a sense of belonging, wellbeing and capacity for success (Broström, 2000). 'Ready

schools' are synonymous with flexible, adaptable, supportive environments, guided by strong leadership and positive relationships, that are responsive to the children attending and facilitate family engagement and connections with local prior-to-school settings and the broader community (Dockett & Perry, 2008).

To support the evaluation of a child's strengths and needs prior to beginning school, it may be beneficial to undertake a comprehensive, multidisciplinary assessment, with input from the child's paediatrician, a speech pathologist, and psychologist. This will help not only to inform expectations for the child within formal education, but may also be required to qualify the family to receive additional support once the child is enrolled. This will improve the readiness of the family and school specifically to receive the child, although caution should be used in interpreting the results of these assessments as skill-based assessments of children's functioning (alone) have been shown to be poor predictors of subsequent school adjustment and achievement (La Paro & Pianta, 2001; Pianta & La Paro, 2003). There also may be continuing professional development opportunities for teaching and support staff to undergo additional training in preparation for the child's arrival.

Implementation and regular evaluation of individualised transition plans

Many of the principles outlined in this report build towards and facilitate the development of the child's individual Transition Plan. The Transition Plan will hold all of the pertinent information on the child's strengths and needs, and how best to assist them with their integration into the school environment. It contains the information shared by families, and advice and recommendations put forward by the early learning support team, which will allow the child and educators to best meet developmental and academic goals.

The Transition Plan should contain:

- Information on diagnosis and the results of cognitive, communication and adaptive skills assessments
- A list of the child's ASD symptoms, across the social, communicative and restrictive behaviour domains, as well as those pertaining to sensory processing issues
- General health information
- The child's strengths and weaknesses with respect to cognition
- The child's abilities with respect to organising and synthesising information
- The degree of participation expected from the child, and details of social competence
- Behaviours from adults which facilitate engagement (eg. using humour, gestures)

- Topics which the child finds particularly interesting which may be used for motivation
- Any difficult behaviours the child currently engages in
- Fears or triggers of difficult behaviour
- How the child is likely to respond if scared, anxious, or confused
- Current successful strategies for challenging behaviours
- Individualised, achievable goals regarding developmental milestones, academics, and adaptive skills

The particular individualised goals the child is working towards (e.g. self-care or hygiene tasks, asking for help, waiting) should define the child's baseline ability, the specifics of what they aim to do, how frequently and under what circumstances, and the strategies that will be employed to assist them. The person responsible for implementing the strategies and evaluating their success should also be specified.

It may take some time to refine the Transition Plan to achieve the best possible outcomes, and as children grow and develop their goals, behaviours, strengths and needs will change. It is therefore crucial that the early learning support team regularly evaluate and refine the Transition Plan. The success of the child's transition to school is usually defined in terms of the absence of negative outcomes such as significant distress, avoidance and other problematic behaviours (Dockett & Perry, 2004b). Smooth transitions are generally associated with:

- children feeling secure, relaxed and comfortable (rather than anxious, lonely, confused or upset) in the new school environment; liking school; displaying increased academic and social skills and being able to successfully negotiate the daily social and academic challenges they encounter at school (such as being engaged and displaying interest and motivation to participate in class and school activities, achieving academic progress, being able to establish supportive social ties with peers and teachers, and so on); and developing positive attitudes and feelings about school and learning, together with a sense of wellbeing, belonging and inclusion (Astbury, 2009; Broström, 2000; Ladd, 2003),
- increased likelihood of active family involvement in children's education and the development of mutually respectful relationships between families and educators (Ramey & Ramey, 1994).

Parents and carers and teachers have been known to have very different perceptions and expectations of what makes for a successful transition. Teachers generally place more emphasis on children's adjustment to the school context, and their attitudes and feelings about being at school and learning, whereas parents focus more on children's academic progress (e.g. reading and counting) than teachers do (CEIEC, 2008; Dockett & Perry, 2004b; National Center for Educational Statistics (NCES), 1995). Teachers' perceptions of adjustment problems of children in their class may reflect a 'poor fit' between children's competencies and aspects of the school classroom context (including teachers' expectations and demands) (Rimm-Kaufman, et al., 2000). Furthermore, teachers' judgements of whether

children have adjusted may also be affected by factors relating to the ethnicity, culture and socioeconomic status of both the teachers making the judgments and the children being assessed (Rimm-Kaufman, et al., 2000).

Therefore, when evaluating what constitutes a successful transition, it is important to obtain information from multiple perspectives; that is, that of children and the whole of their early learning support team.

Facilitation of the development of the child's skills as a learner

There are many strategies which may be used within the classroom to facilitate the engagement of the child on the spectrum such as using various means of presentation, including visual, physical, and modelling, linking work to the child's particular interests, incorporating play-based learning and positively reinforcing success with rewards, yet the overarching strategy is to tailor the approach to the particular child with input from the multidisciplinary early learning support team.

Curriculum access for students on the spectrum challenges teachers to differentiate the curriculum content, the teaching and learning sequences, and the monitoring and assessment required to meet individual needs. Teachers must also adjust the learning environment to support student learning.

Teachers need to be wary of some of the learning difficulties which children on the spectrum may experience as a result of their autism characteristics. In particular, children on the spectrum may experience barriers to learning in the following ways:

- Difficulties following social routines such as lining up, waiting, sharing and turn-taking
- Difficulties shifting attention to different modes of information (e.g. from board to teacher when teacher makes a comment) and/or sustaining attention
- Literal interpretation of language and information
- Difficulties comprehending written language
- Difficulties understanding verbal language and therefore difficulties learning via traditional didactic methods
- Poor generalisation skills or an inability to apply knowledge or information to different activities or situations
- Difficulties thinking of alternatives to solutions or problems
- Avoidance of new or different activities or interactions
- Being easily distracted by or seeking out specific sounds, smells, sights, touch and movements
- An excessive need for sensory input such as finding it difficult to sit still or keep their hands or feet still

Some of these difficulties, such as following social routines, can be worked on as one of the goals of the Transition Plan. However, some of them may need to be worked around by focusing instead on the child's strengths. Children on the

spectrum may learn best when information is presented: simply and clearly, in chunks and pieces, in a non-transient manner (e.g. a diagram rather than verbal instruction), in a set and pre-determined order, and with a focus on concrete facts, rather than abstract concepts. These preferences for information presentation may manifest as strengths in visual and spatial memory, ordering information, the ability to follow routines, and rote learning, including reciting, learning letters, patterns, words and sequences. Learning the child's abilities and adapting the curriculum to align with these strengths will facilitate greater engagement.

Utilisation of dedicated funding and resources

The Principal is responsible for ensuring that all students are provided with the appropriate educational adjustments to enable them to access the curriculum. Collaboration with parents/carers is an important part of the process of identifying and responding to the individual needs of students, and this process will begin with the sharing of information about the child which will eventually be incorporated into their Transition Plan.

The learning and support team in each school assists classroom teachers to meet the educational needs of their students. Many schools provide additional support for students with a disability or a learning difficulty in a range of ways, according to the individual needs of each student.

This support may include:

- changes that teachers make in the classroom to their teaching and learning programs every day
- access to a wide range of personnel with specialist expertise who support students and their classroom teachers
- additional assistance in the classroom from support staff
- the provision of specialist materials and equipment
- access to specialist training for teachers and support staff.

Resources
http://www.transitiontoschoolresource.org.au/tts

Transition plan template

http://education.qld.gov.au/asd-online-resource-kit/transition/transition_booklet.html

Table 2: Guidelines & Policies for Transitioning Children with Disabilities to Primary School in Australian States & Territories

Practice Item	Practice Description	Australian State or Territory
Initial Planning Practices		
Collaborative Approach	Collaborative relationship between all stakeholders; families, school staff, specialist support, government staff, and members of local community facilitated.	NSW: Document - *Transition support for students with additional or complex needs and their families / Standing: Committee on Social Issues Final Report (2012)*
Placement options identification	Kindergarten placement options (regular school, special school, specialised program) are identified	NSW Document – *Transition to school for young children with special learning needs* (1997)
Team establishment (Parent Support Group in Victoria)	Team created for transition to school. Team members include: • Parent/carer • Preschool teacher • Early childhood intervention staff • School teacher • School principal • Others staff as appropriate	Victoria: Documents – *Sharing our journey: From Kindergarten to school* (2009) *Transition: A Positive Start to School Resource Kit* (2009) NSW Document – *Transition to school for young*

Practice Item	Practice Description	Australian State or Territory
		children with special learning needs (1997)
Transition coordinator/ Case manager (Head of Special Education Services in Queensland)	A team member is identified as the key transition coordinator or case manager is assigned from Department of Education. Responsible for overseeing entire transition process to ensure continuity of care.	Victoria: Document – *Sharing our journey: From Kindergarten to school (2009)* NSW: Document - *Transition support for students with additional or complex needs and their families / Standing: Committee on Social Issues Final Report (2012)* Document – *Transition to school for young children with special learning needs* (1997) Queensland *Special Education Programs Website*
Timeline	Initial transition timeline is created; should begin 12 months prior to transition	NSW: Document - *Transition support for students with additional or*

Practice Item	Practice Description	Australian State or Territory
		complex needs and their families / Standing: Committee on Social Issues Final Report (2012)
Key school staff member identified	Staff member from school identified as key contact and support worker Staff to work with child in Kindergarten are identified	Victoria: Document – *Sharing our journey: From Kindergarten to school (2009)*
Team meetings	Prior to stating school team meeting. After school commencement team meeting	Victoria: Document – *Sharing our journey: From Kindergarten to school* (2009)
Identifying Funding & Program Eligibility	Identify if child eligible for additional funding and/or specific department of education programs and assist families to access	Victoria: Document – *Sharing our journey: From Kindergarten to school* (2009)
Support staff identification	Related services needed for kindergarten placement are identified; Support staff (e.g., speech & language pathologist, occupational therapist, physiotherapist, autism advisor)	Victoria: Document – *Sharing our journey: From Kindergarten to school* (2009)
Formal transition plan/program	Transition plan developed with including specific steps, procedures and actions to complete the transition that is flexible and family-centred	Victoria: Document – *Sharing our journey: From*

Practice Item	Practice Description	Australian State or Territory
		Kindergarten to school (2009) NSW: Document - *Transition support for students with additional or complex needs and their families / Standing: Committee on Social Issues Final Report (2012)* Document – *Transition to school for young children with special learning needs* (1997)
Transition plan/program responsibility	Coordinator/ case manager ongoing carriage of and reasonability for development and implementation of transition plan.	NSW: Document - *Transition support for students with additional or complex needs and their families / Standing: Committee on Social Issues Final Report (2012)*
Individualised Transition Statements		
Family Information and Background	Family members, language spoken at home, important family events; Child's	Victoria: Document – *Sharing our*

Practice Item	Practice Description	Australian State or Territory
	experiences at home and in the community	*journey: From Kindergarten to school (2009)*
General Health Information	Including medical conditions & diagnosis, medical plans, medical reports, medications, etc.	<u>ACT:</u> Document – *Student Centred Appraisal of Need: Booklet for parents, carers and staff* <u>Victoria:</u> *Documents – Sharing our journey: From Kindergarten to school (2009)*
Behaviour & Communication	Including assessments and information about child's communication and adaptive skills (such as personal care/hygiene support plan), level of independence,	<u>ACT:</u> Document – *Student Centred Appraisal of Need: Booklet for parents, carers and staff* <u>Victoria:</u> Documents – *Sharing our journey: From Kindergarten to school (2009)l; Transition: A Positive Start to School Resource Kit* (2009)
Cognition	Child's level of development; impact of child's disability or	<u>ACT:</u> Document – *Student Centred*

Practice Item	Practice Description	Australian State or Territory
	developmental delay on learning	*Appraisal of Need: Booklet for parents, carers and staff* <u>Victoria:</u> Document – *Transition: A Positive Start to School Resource Kit* (2009)
Early Intervention	Include information on child's previous intervention	<u>Victoria:</u> Document – *Sharing our journey: From Kindergarten to school (2009)*
Context of the early years setting	Information in relation to preschool learning environment, description of preschool program delivery, attendance history	<u>Victoria:</u> Document – *Sharing our journey: From Kindergarten to school (2009)*
Child's views on starting school	Include child's views on starting school, what he or she is looking forward to, what he or she is concerned about, what information the child wants about their school, what information the child would like their school teacher to know about them	<u>Victoria:</u> Document – *Sharing our journey: From Kindergarten to school (2009)*
Child's strengths & Weakness	Any challenging behaviours the child currently engages in, fears or triggers of such behaviour, specific skills they	<u>ACT:</u> *Document – Student Centred Appraisal of Need: Booklet for*

Practice Item	Practice Description	Australian State or Territory
	have achieved and other skills they are working on	*parents, carers and staff* Victoria: Document – *Sharing our journey: From Kindergarten to school (2009)*
Approaches to learning	Topics child find particularly interesting which may be used for motivation; preferred approaches to learning new things; affect disability may have on participation in school life and environment	ACT: *Document – Student Centred Appraisal of Need: Booklet for parents, carers and staff* Victoria: Document – *Transition: A Positive Start to School Resource Kit* (2009)
Strategies for challenging behaviours	Current successful strategies for challenging behaviours; Behaviours from adults which facilitate engagement (e.g. using humour, gestures, visual aids)	Victoria: *Documents – Sharing our journey: From Kindergarten to school* South Australia Document – *Ready Set Go: Starting School for families of children with disabilities* (2014)

Practice Item	Practice Description	Australian State or Territory
Goals	Individualised, achievable goals regarding developmental milestones, academics and adaptive skills	Victoria: Document – *Transition: A Positive Start to School Resource Kit* (2009) South Australia Document – *Ready Set Go: Starting School for families of children with disabilities* (2014)
Active Preparation of the child for transition		
Preparing the child for school: Family's Role		
Parent information	Parents are provided with information about the transition process and available program options	Tasmania *Document – Starting Kindergarten* (for typically developing children)
Practice routines	Create basic daily schedule and routine of simple daily tasks for the child to practice, such as getting dressed in time, eating from a lunchbox, independent toileting.	Tasmania Document – *Starting Kindergarten* (for typically developing children) South Australia Document – *Ready Set Go: Starting School for families of*

Practice Item	Practice Description	Australian State or Territory
		children with disabilities (2014)
Social story	A social story about the transition to school is created for the child. Informal process in some guidelines - talking to child about what will happen at school, daily routine, positive experiences such as play equipment, fun activities, new friends.	<u>Tasmania</u> Document – *Starting Kindergarten* (for typically developing children) <u>Victoria:</u> *Documents – Sharing our journey: From Kindergarten to school*
Preparing child for school: School's Role		
Planning visits	The transition coordinator/ case manager arranges classroom visits to placement options	<u>Victoria:</u> Document – *Sharing our journey: From Kindergarten to school (2009)* <u>NSW</u>: Document - *Transition support for students with additional or complex needs and their families / Standing: Committee on Social Issues Final Report (2012)*
School visit	Child visits school to orient them with school environment,	<u>Tasmania</u>

Practice Item	Practice Description	Australian State or Territory
	where toilets are, how to get a drink, where belongings are kept,	*Document – Starting Kindergarten* (for typically developing children) <u>South Australia</u> Document – *Ready Set Go: Starting School for families of children with disabilities* (2014)
Classroom visit	Child visits kindergarten classroom and meets receiving school teacher	<u>Victoria:</u> Document – *Sharing our journey: From Kindergarten to school (2009)*
Classroom exploration	Child is allowed to explore the Kindergarten classroom at times of low stress and with few expectations	<u>Victoria:</u> Document – *Sharing our journey: From Kindergarten to school (2009)*
Meeting with Principal	Part of orientation process includes child and parent/carer meeting with school principal	<u>Victoria:</u> Document – *Sharing our journey: From Kindergarten to school (2009)*
Receiving teacher visit	Receiving Kindergarten teacher visits sending program (preschool) to observe child	<u>Victoria:</u> Document – *Sharing our journey: From*

Practice Item	Practice Description	Australian State or Territory
		Kindergarten to school (2009)
Teacher sharing	Teachers (sending and receiving) share information about the child and link needs to curriculum, resourcing, and facilities; receiving teacher working with early childhood teacher to identify particular skills and competencies that will help the child make a successful transition to school	NSW: Document – *Transition to school for young children with special learning needs* (1997)
Preparing the Kindergarten class		
Environment preparation	Kindergarten learning environment is made ready/ appropriate; Potential modifications that may be required within the school environment	Victoria: Document – *Sharing our journey: From Kindergarten to school (2009)*) South Australia Document – *Ready Set Go: Starting School for families of children with disabilities* (2014)
Staff & Resource Coordination	Head of Special Education Services coordinates and manages the staff and resources of the specialised program	Queensland *Special Education Programs Website*
Staff support & guidance	Head of Special Education Services provides staff who will work with the child are provided	Queensland

Practice Item	Practice Description	Australian State or Territory
	with the necessary advice and guidance	*Special Education Programs Website*
After Commencing School		
Evaluation of process/ Review meeting	Meeting with parent/carer and relevant staff and professionals (transition team) evaluate and review the transition process	Victoria: Document – *Sharing our journey: From Kindergarten to school (2009)* NSW: Document - *Transition support for students with additional or complex needs and their families / Standing: Committee on Social Issues Final Report (2012)* NSW Document – *Transition to school for young children with special learning needs* (1997)
Formal completion of early childhood program	After review meeting early childhood program ceases. Handover to school team from early childhood staff.	Victoria: Document – *Sharing our journey: From Kindergarten to school (2009)*

Practice Item	Practice Description	Australian State or Territory
Post-Transition Support	Support and management continues for set period (6 months) after the actual transition.	NSW: Document - *Transition support for students with additional or complex needs and their families / Standing: Committee on Social Issues Final Report (2012)*
Open communication	Establish strong communication procedures for parent/carer and school teacher and school. Example, communication book – a notebook that families and staff write in daily	Victoria: Document – *Sharing our journey: From Kindergarten to school (2009)* NSW: Document – *Transition to school for young children with special learning needs* (1997) South Australia Document – *Ready Set Go: Starting School for families of children with disabilities* (2014)

PART 2 STUDY

Transition to School from Autism Specific Early Learning and Care Centres

Background

The transition to primary schooling is recognised by the Department of Education and Training as "*one of the most significant transition points in a person's life*" (NSW Public Schools 2014). A successful start to school has been defined as consisting of feeling secure and comfortable in the new school environment, increased academic and social skills, increased independence, engagement and motivation to participate in class and school activities, academic progress, positive relationships with peers and teachers, positive attitudes and feelings about school and learning, and a sense of wellbeing, belonging and inclusion (Hirst et al. 2011). There is evidence to suggest that children who have a positive start to school are likely to engage well and experience academic and social success (Denkyirah and Agbeke 2010; Forest et al. 2004). While there have been some efforts to provide specific programs to support transition to school, this is limited for children with a disability, who have more difficulty with this transition (Quintero and McIntyre 2011). The DET *Transition to School for Young Children with Special Learning Needs* guidelines recognise that children with special learning needs will require specific support. However, these guidelines are not specific to children on the autism spectrum, who arguably have particular transition support needs (Denkyirah and Agbeke 2010). While an increasing number of children with autism are included in mainstream public school classrooms, the majority still receive their pre-schooling in special education environments (Australian Bureau of Statistics 2012). Because the differences between specialised preschools and public schools are great and because children with autism present with a unique cluster of difficulties, including difficulty adapting to new environments, the transition between such educational settings represents an important challenge for children on the spectrum, their families and schools.

Children on the spectrum have a greater risk of poor school outcomes, including emotional and behavioural problems (Fleury et al. 2015), bullying (Sterzing et al. 2012), school exclusion (Donno et al. 2010) and peer rejection (Rotheram-Fuller et al. 2010). It is therefore critical that both the barriers and protective factors for a positive transition for children with autism are well understood. However, there is a lack of empirical studies that examine the transition to school for children with autism, and existing research on primary school transition has tended to adopt cross-sectional survey based methodology (Beamish et al. 2014; Denkyirah and

Agbeke 2010; Fontil and Petrakos 2015; Forest et al. 2004), rather than longitudinal designs with specific measurement of children's social, emotional, adaptive, cognitive and academic progress. A large number of school transition practices has been identified and endorsed from these survey studies; however, the adequacy of these practices has not been established. There is a need for understanding the specific support needs of children on the autism spectrum in order to develop evidence based programs to enhance the school transition process. Additionally, a more systematic monitoring of developmental and behavioural progress, using standardised instruments is also required in order to understand transition outcomes for children with autism (Charman et al. 2004).

This Study (Part 2) aimed to evaluate transition to school outcomes for children transitioning from early intervention to primary school. It also aimed to determine the individual child characteristics as well as family variables that are associated with successful transition to school in children with autism. Specifically the child characteristics (cognitive level as measured by MSEL, behavioural profile as ascertained using parent version of CBCL, overall autism symptoms as per SCQ and repetitive symptoms as per RBS, and adaptive functioning based on VABS) and family factors such as parental stress and quality of life were evaluated against transition outcomes as measured using parent/teacher reports of behaviours as per CBCL, school adjustment using TRSSA and social skills based on SSIS).

Participants

Data were collected from participants transitioning from the six Autism Specific Early Learning and Care Centres (ASELCCs) in New South Wales (n = 8), Queensland (n = 8), South Australia (n = 5), Western Australia (n = 12), Tasmania (n = 11) and Victoria (n = 7) to school in 2016. Entry to the ASELCC program requires a diagnosis of autism spectrum disorder by a qualified clinician. The early intervention programs provided at each ASELCC are varied and include more structured interventions like the Early Start Denver Model, through to more eclectic programs. This total sample of 51 participants included 9 females (18%) and 42 males (82%). The mean age of the sample at exit from the centres was 5.4 years (SD = 0.4). Children had been attending the centre for a mean of 21 months (SD = 8.7). Data were collected on entry to the centre, at exit from the centre and at the end of Term 2 of their first year of school.

Measures

Mullen Scales of Early Learning – Child Characteristics

The Mullen Scales and Early Learning (MSEL; Mullen 1995) provide a measure of cognitive and motor development in children from birth to 68 months. The MSEL consist of four subscales evaluating visual reception, fine motor, and receptive and

expressive language skills. Standardised developmental quotients (DQs) were calculated for each subscale of the MSEL by dividing each child's age equivalent score by their chronological age at the time of testing and multiplying by 100 (see Eapen et al. 2013) given that a number of children in the sample did not receive MSEL subscale raw scores that were high enough for calculation of a meaningful t score (i.e., they were performing at a level <0.1 percentile). The MSEL was administered at entry and exit from the centre.

Vineland Adaptive Behaviour Scale – Child Characteristics

The Vineland Adaptive Behaviour Scales second edition (VABS; Sparrow et al. 2005) evaluates parent perceptions of their child's adaptive functioning in a number of domains including communication, daily living skills, socialisation and motor skills. A norm-referenced standardised score with a mean of 100 and SD of 15 is calculated for each domain. This is also calculated for the overall adaptive behaviour index. VABS scale scores with a mean of 15 and an SD of 3 are calculated for each sub-domain. **Higher scores are indicative of better adaptive function**. The VABS was administered at entry and exit from the centre.

Social Communication Questionnaire – Child Characteristics

The Social Communication Questionnaire (SCQ; Berument et al. 1999) is a 40 item measure evaluating autism symptoms, with a **total score above 15 indicating probable autism**. The SCQ was administered at entry and exit from the centre.

Repetitive Behaviour Scale – Child Characteristics

The Repetitive Behaviour Scale revised (RBS; Lam and Aman 2007) is a 44 item parent report questionnaire designed to evaluate repetitive behaviour in children with autism. The RBS consists of six subscales including stereotyped, self-injurious, compulsive and ritualistic behaviour, as well as restricted interests. The RBS was administered at entry and exit from the ASELCC program. **Higher scores indicate a greater presence of repetitive behaviours**.

The following outcome variables for the child - child behaviour, social skills and child adjustment to school and family – parent stress and family quality of life were measured.

Child Behaviour Checklist – Child Characteristics

The Child Behaviour Checklist (CBCL; Achenbach et al. 1987; Achenbach and Rescorla 2001) is a widely used 100 item measure assessing behavioural and emotional problems in children including anxiety, depression, aggression, attention

and conduct problems. Both a parent report form and caregiver / teacher report form were included in the project. **Higher scores on the CBCL are indicative of an increase in behavioural and emotional difficulties**. The parent form of the CBCL was administered at entry and exit from the centre, as well as at follow up at the end of Term 2. The caregiver/teacher report form was completed by the staff at the ASELCC at exit and by participants' teacher at follow up.

Quality of Life in Autism Scale – Family Characteristics (Parents)

The Quality of Life in Autism Scale (QOLA; Eapen et al. 2014) consists of 48 items rated on a five point Likert scale. Part A consists of questions assessing parents' quality of life, and Part B consists of items evaluating the impact of the child's autism symptoms on the parent. **Higher scores indicate a higher level of parent-reported quality of life.** The QOLA was administered at entry and exit from the centre, as well as at the end of Term 2.

Parenting Stress Index - Family Characteristics (Parents)

The Parenting Stress Index Short Form (PSI; Abidin 2012) was administered to parents at entry and exit from the ASELCC program. The PSI is a 36 item measure that evaluates parental stress across three subscales, parental distress, parent-child dysfunctional interaction and difficult child. **Higher scores on the PSI indicate greater parenting stress**.

Transition outcomes were ascertained using the teacher /caregiver version of CBCL for behaviours as well as social skills using SSIS and overall school adjustment using TRSSA.

Social Skills Improvement System Rating Scales – Outcome Measure - Child

The Social Skills Improvement System Rating Scales (SSIS; Gresham and Elliott 2008) provide an evaluation of social skills, problem behaviours, and academic competence. Both teacher and parent forms were included in the project to collect information on social skills development at the end of Term 2. The SSIS includes subscales evaluating social skills including communication, cooperation, assertion, responsibility, empathy, engagement and self-control. It also evaluates problem behaviours including bullying, hyperactivity/inattention, and symptoms of autism. A measure of academic competence is also included on the teacher rating form. Standard scores and percentile ranks are calculated for the social skills and problem behaviours composite scales. Behaviour levels (below average, average, above average) are also provided for each individual subscale.

Teacher Rating Scale of School Adjustment – Outcome Measure - Child

The Teacher Rating Scale of School Adjustment (TRSSA; Birch and Ladd 1997) is a 52 item measure that assesses adjustment to the school or classroom setting. It consists of five subscales including independent participation, cooperative

participation, teacher's perception of children's school liking, teacher's perception of children's school avoidance, and teacher's perception of children's interest/comfort with the teacher. **Higher scores on these subscales indicate a higher frequency of this behaviour**.

Results and Implications

Out of the 51 children in the study, only 24 participants (47%) had full data at follow up in Term 2 of their first year of school.

Where did the children go, for how many days, what type of school and how was the experience of transition?

School placement details

Figure 1 contains information regarding school placements. The majority of children in the sample transitioned to full time Prep / Kindergarten, with 39% attending a mainstream setting, 28% enrolled in a specialised school setting, 18% attending a mixed mainstream and special school and 11% in a special class in a mainstream school setting. A large proportion of the sample (84%) transitioned from the ASELCC setting to Year 1, with a full time (5 days a week) school program. Parents reported that the experience of starting school ranged from very good (41%) to fairly good (41%), with a smaller proportion indicating that their experience was just ok (11%) or not very good (7%).

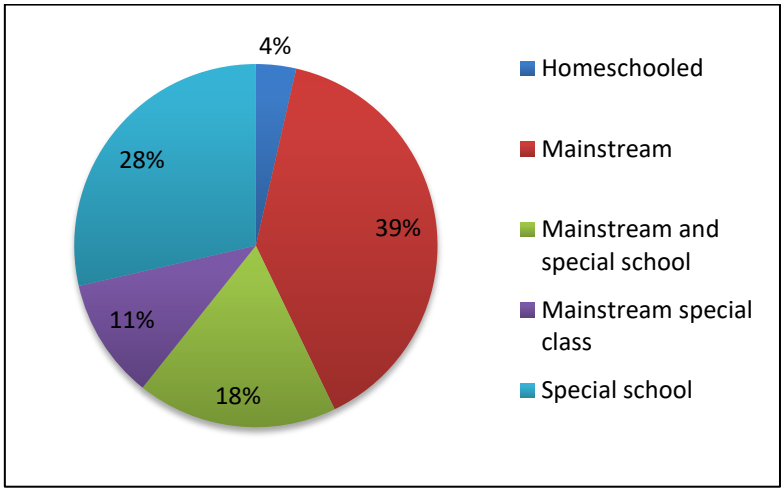

Figure 1a. Type of school / class placement N=51

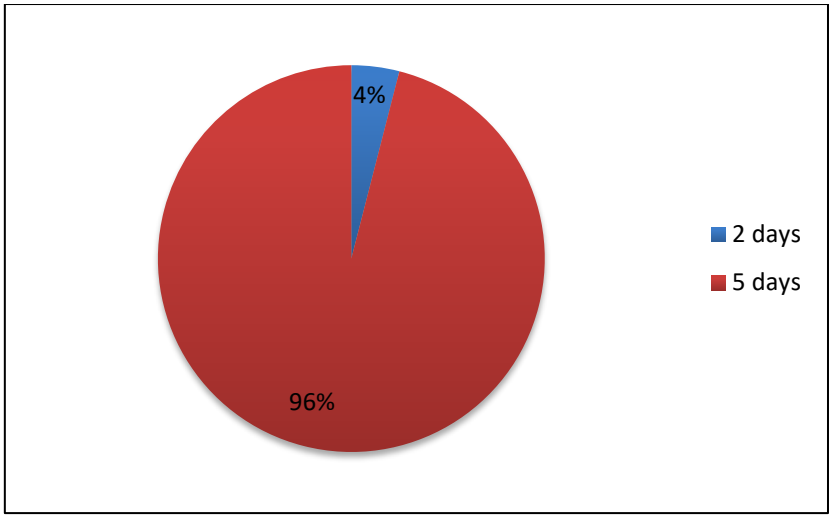

Figure 1b. Number of days attending N=51

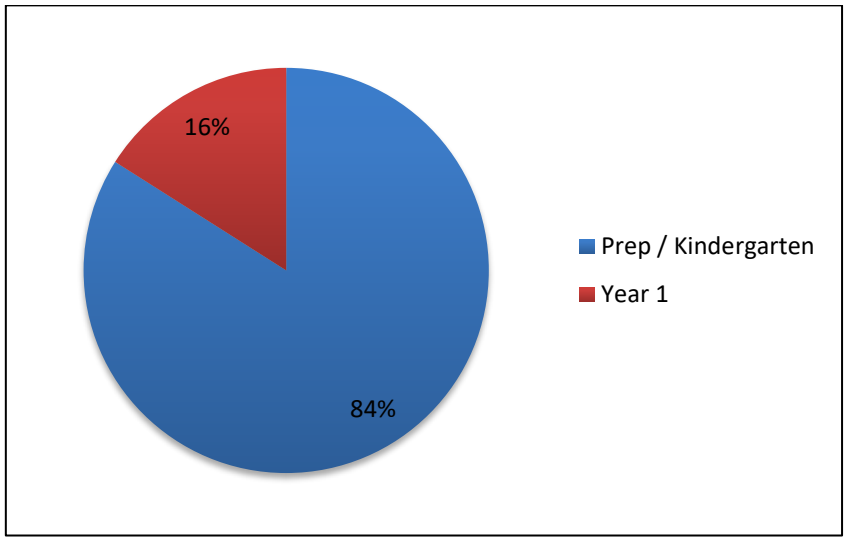

Figure 1c. Year transitioned to in 2016 N=51

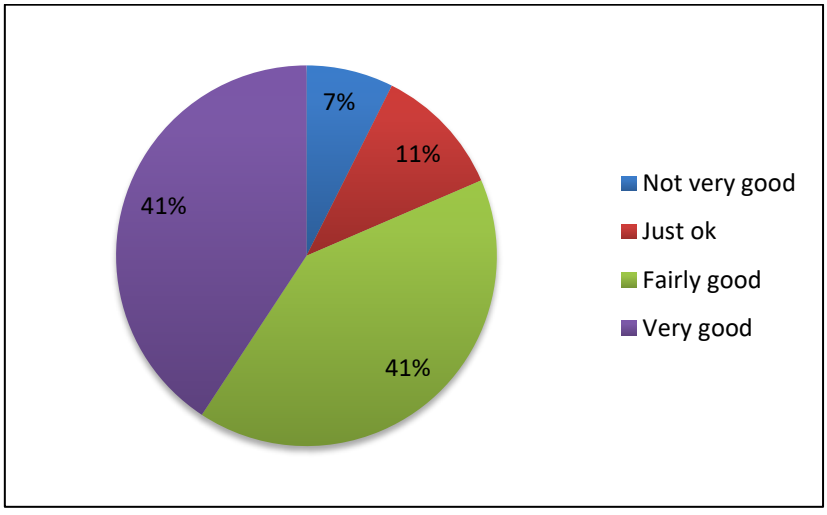

Figure 1d. Experience of starting school N=51

How did the children fare at the end of Term 2 at school as rated by teachers and parents?

Mean scores on school follow up measures for children

The CBCL, TRSSA and SSIS were completed by the teacher and the parent for 24 participants at the end of Term 2. Mean scores on the TRSSA are provided in Figure 2a. Results indicated that, according to teacher reports, children in the sample displayed high scores in cooperative participation, liking school and minimal avoidance of the teacher. However, they reported lower scores on independent participation.

Mean scores on the SSIS are provided in Figure 2b. There were no significant differences between parent and teacher scores on the SSIS ($p > 0.05$).

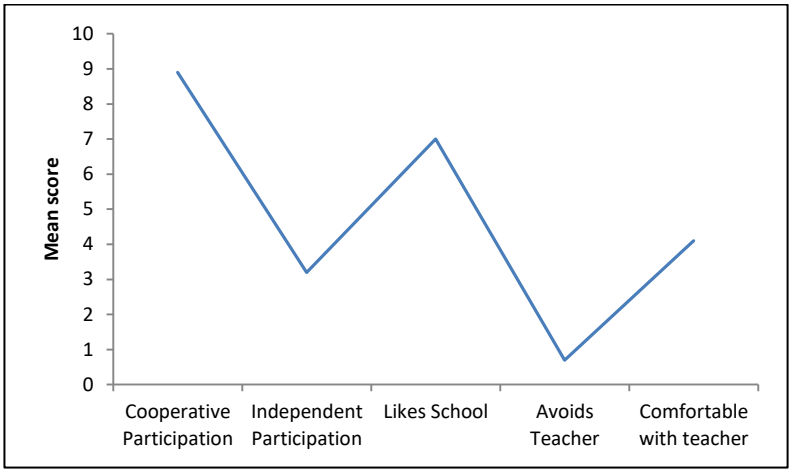

Figure 2a. Mean scores on the Teacher Rating Scale of School Adjustment. N=24

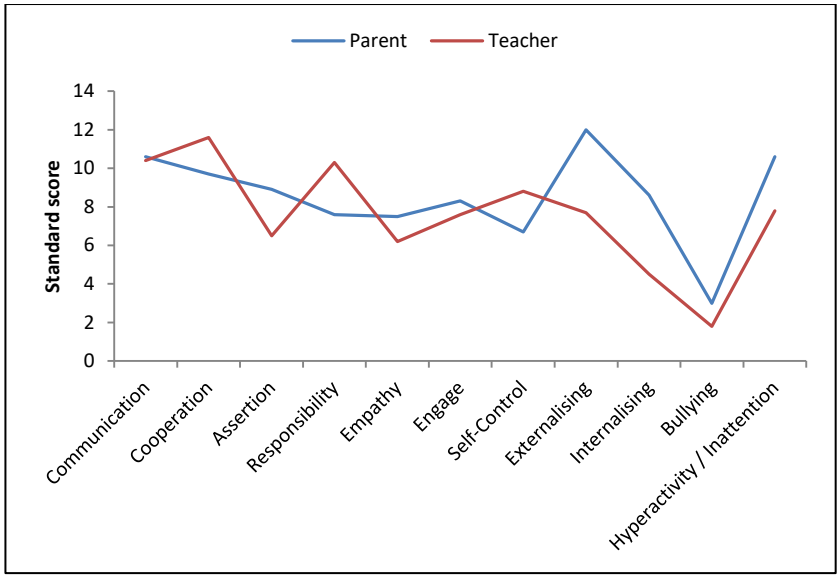

Figure 2b. Mean scores on the Social Skills Improvement System Rating Scales N=24

A behaviour level score is provided for each subscale of the SSIS, rated on a three point scale from below average to above average. Parent and teacher ratings for the social skills subscales of the SSIS are provided in Figures 2c and 2d. Parents indicated more scores in the below average range for the social skill subdomains compared with teachers, particularly in communication and cooperation. Scores on the problem behaviour subscales of the SSIS are given in Figures 2e and 2f. Parents reported problem behaviours in the above average range compared with teachers.

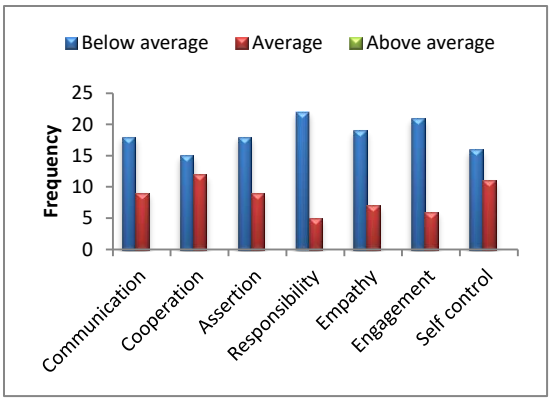

Figure 2c. Parent behaviour level rating on the social skills subscales of the SSIS N=24

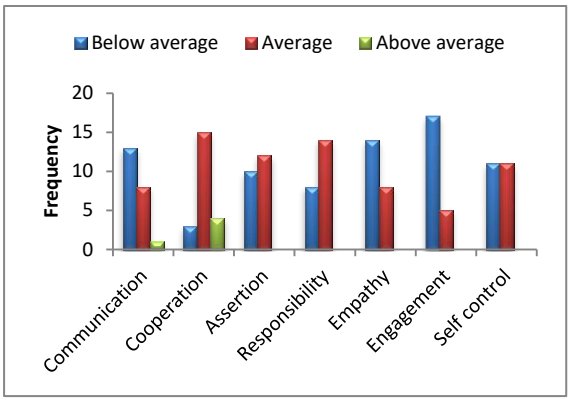

Figure 2d. Teacher behaviour level rating on the social skills subscales of the SSIS N=24

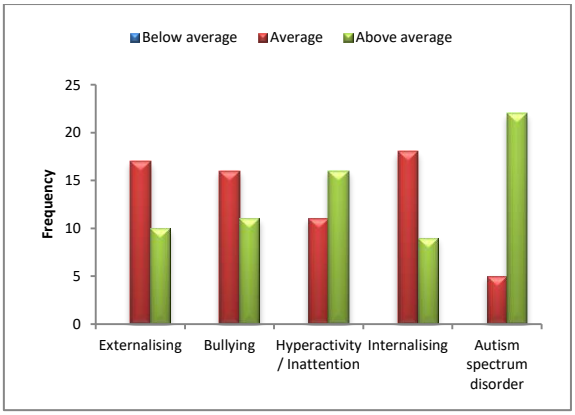

Figure 2e. Parent behaviour level rating on the problem behaviour subscales of the SSIS N=24

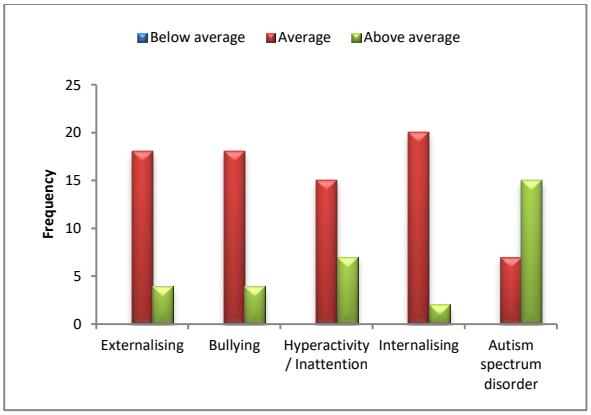

Figure 2f. Teacher behaviour level rating on the problem behaviour subscales of the SSIS N=24

How did child and parent variables at exit impact on transition to school?

Comparison between scores at exit and follow up

Paired t tests were calculated to compare scores on the CBCL and QOLA at exit and at follow up in Term 2. Results indicated no differences in scores on the QOLA at the two time points, suggesting that parental quality of life did not significantly improve or decrease within the first two terms of school. Scores on the parent CBCL indicated a significant difference on the attention subscale, with parents indicating less attention problems at follow up (Mean difference = 0.8, t = 3.1(19), $p<0.05$, Cohen's $d = 0.7$). Three significant differences were identified on the teacher report form of the CBCL including on the oppositional behaviour subscale (Mean difference = 2.7, t = 3.1(15), $p<0.05$, Cohen's $d = 0.8$), anxiety and depression subscale (Mean difference = 2.2, t = 2.3(15), $p<0.05$, Cohen's $d = 0.6$) and aggression (Mean difference = 5.8, t = 3.0(15), $p<0.05$, Cohen's $d = 0.8$). **This indicates that there was a reduction in teacher reported levels of oppositional behaviour, aggression, anxiety and depressive symptoms at follow up.**

Relationship between child characteristics at exit from the ASELCC program and transition outcomes

Correlations between child characteristics and transition outcomes are provided in Tables 1 to 3 (see Appendix).

Teacher Rating Scale of School Adjustment

Table 1 outlines the relationship between the TRSSA and child characteristics including behaviour, cognitive ability, adaptive function and autism symptoms. Results indicated that behavioural characteristics at exit including affective and attention problems, withdrawn and oppositional behaviour were negatively associated with independent participation or the ability to take initiative in the classroom. Attention difficulties and aggression were also negatively correlated with cooperative participation, or adherence to the social rules and expectations of the classroom, within this sample. **This highlights that difficult behaviours may be a key determinant in classroom participation**.

Results also highlighted a significant positive relationship between scores on the MSEL and the TRSSA, with visual reception, fine motor skills and receptive and expressive language shown to be positively associated with comfort with the teacher. Expressive language skills were also associated with increased independent participation in the classroom. **This indicates that cognitive ability, and particularly language skills, play a role in successful transition to school for children with autism**.

Communication skills, as measured by the VABS, were also positively associated with both cooperative and independent participation in the classroom. Motor skills and overall adaptive function were also positively related to both forms of classroom participation, as well as comfort level with the teacher. **Communication skills, motor and adaptive skills appear to be important for classroom participation and comfort with the teacher.**

Interestingly, while there were a number of behavioural, cognitive and adaptive characteristics that were associated with successful transition to school for children with autism, there was no relationship between autism severity or repetitive behaviours and transition outcomes. This has important clinical implications for transition practices, as it highlights that **it is not autism severity or repetitive behaviours, but rather cognitive, language and adaptive functioning as well as associated behaviours that are critical to successful transition**.

Taken together, these findings indicate the **need to assess and address behavioural difficulties, cognitive ability and adaptive function for better transition to school outcomes** for children on the autism spectrum. Previous research has highlighted that both independent and cooperative participation in the classroom are critical to a child's achievement and educational progress (Buhs and Ladd 2001). These findings therefore have clinical implications for transition practices. It appears that **understanding and supporting behavioural, communication and cognitive difficulties will be of significant benefit to children with autism transitioning to school.**

Social Skills Improvement System Rating Scales

There were a number of associations between scores on the social skills subscales of the SSIS and the CBCL. Attention difficulties were negatively correlated with the communication, cooperation, responsibility, empathy, engagement, self-control and overall social skills subscales of the teacher rated SSIS. Aggressive behaviour was also negatively associated with the cooperation, responsibility, self-control and overall social skills subscale. Affective symptoms were also related to engagement and overall social skills. **This indicates that managing both attention difficulties and aggressive behaviour are important prior to and during the transition process**.

All subscales of the MSEL were positively associated with the communication, assertion, empathy and engagement subscales of the SSIS. Receptive and expressive language skills were also related to overall teacher rated social skills. **This indicates the importance of cognitive ability and language skills in the development of social skills, particularly in the classroom environment**.

Results indicated a significant positive relationship between all subscales of the VABS and communication and engagement on the teacher rated SSIS**, highlighting the importance of adaptive function in relating to others.** The overall adaptive behaviour composite was also shown to be associated with communication, assertion, empathy, engagement and social skills.

As noted for the TRSSA, there were no significant relationships between autism symptoms or repetitive behaviours and the social skills subscales of the SSIS, highlighting that **autism symptom severity is not a significant barrier to school transition and less important than behaviour and the language, cognitive and adaptive skills of the child**.

Attention difficulties, as rated on the CBCL, were positively associated with all problem behaviour subscales of the SSIS including bullying, hyperactivity or inattention, externalising and internalising. They were also associated with reduced academic competence. Aggression was also correlated with all subscales of the SSIS excluding internalising behaviours. There was no significant relationship between cognitive ability, adaptive function, autism symptoms or repetitive behaviour and the problem behaviour subscales of the SSIS. **Child characteristics such as attentional difficulties and aggression appear to play an independent role in the development of social adaptation skills in school aged children with autism**.

Parental quality of life

Parents were administered the QOLA scale at three time points in the study, on entry to the program, at exit and at follow up. Figure 3 shows the mean scores for parents across each time point. There were no significant differences in quality of life scores at the three stages of the study ($p > 0.05$) **indicating that QOL did not change significantly during the transition period.**

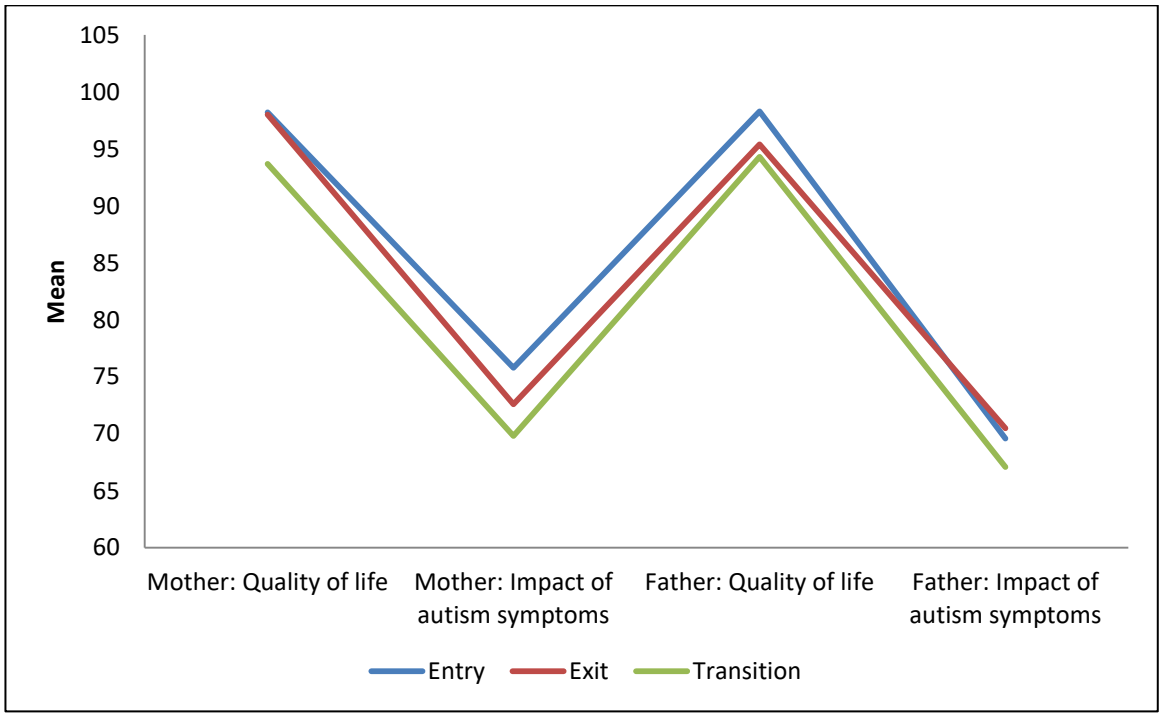

Figure 3. Mean scores on the Quality of Life in Autism Scale

Table 4 (see Appendix) provides correlations between quality of life and child characteristics including behaviour, cognitive ability, adaptive function, autism symptom severity, repetitive behaviours and social skills. Parental factors including parental stress were also included in the analysis. **There was no significant relationship between behaviour, cognitive ability or adaptive function and both maternal and paternal quality of life.** However, there was a significant relationship between pervasive developmental difficulties and autism symptoms and general quality of life for fathers. Repetitive behaviour including self-injurious, ritualistic and restricted interests were negatively related to the impact of autism symptoms in mothers, with **self-injurious behaviours also impacting on paternal stress**. Social skills including **poor cooperation and low self-control also had a negative impact on general quality of life on parents**. Problem behaviours on the SSIS including hyperactivity and externalising also had a negative impact on quality of life in mothers. Parental stress was associated with quality of life in both mothers and fathers, with **parental distress significantly related to both general quality of life,**

as well as the impact of autism symptoms on the parent. The difficult child and dysfunctional interaction subscales of the PSI were negatively associated with general quality of life in fathers. Dysfunctional interaction was also related to the impact of autism symptoms in mothers. These results indicate that **parental distress and parent-child interactions play a role in parental quality of life**. There is also **evidence to suggest that autism symptoms including repetitive behaviours rather than cognitive ability or adaptive behaviours have an impact on quality of life in parents**. This is in contrast to the findings outlined above that show that behavioural, cognitive and adaptive functioning are related to the successful transition to school outcomes. This has implications for clinicians working with families of children with autism, as it highlights the **importance of providing parental support to manage parental distress and the parent-child relationship**. Providing parental support to facilitate parental and family wellbeing, alongside behavioural, language and adaptive skills support for the child is necessary in order to achieve a comprehensive and successful transition outcome.

Summary

The results of the study indicated that **child characteristics had a significant influence on parental quality of life and parental stress with an increase in autism symptoms, particularly repetitive behaviours including self-injurious and ritualistic behaviour, having a significant negative impact on overall outcomes**. It is possible that there are also context specific determinants to wellbeing outcomes. For example, certain behaviours may be more prominent in the home setting or parents may potentially be more sensitive to the more challenging or difficult behaviours associated with the autism spectrum. Similarly, it appears that **child characteristics such as behaviour, cognitive ability, language and communication skills and adaptive functioning were more relevant for outcomes in the school setting than other variables** investigated. Thus as part of a holistic approach to improving transition outcomes, it is important to target relevant issues as they emerge across both home and school contexts. Targeting these issues in early intervention programs will assist children on the spectrum and their parents with this important transition, allowing them to maximise their learning and behavioural potential.

Key Findings and Recommendations

For children on the spectrum transitioning –

Autism symptom severity is not a significant barrier to school transition and less important than behaviour and the language, cognitive and adaptive skills of the child.

In the lead up to and during transition, interventions that address and support

- cognitive and language skills that are important in the development of social skills for the classroom environment,
- communication, motor and adaptive skills important for classroom participation, and
- behaviour particularly attention difficulties and aggressive behaviour

should be a focus.

For Parents of Children Transitioning to School

Children's repetitive and self-injurious behaviours, poor social skills including poor cooperation and low self-control negatively impact on parental quality of life. Autism symptom severity including repetitive behaviours and parental distress rather than the child's cognitive ability or adaptive behaviours impact negatively on parents' quality of life.

In the lead up to and during transition, interventions that address and support

- parents to manage their distress and
- enhance the parent child relationship

are important.

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Appendix to Part 2

Table 1. Correlation between Teacher Rating Scale of School Adjustment and child characteristics at exit

	Cooperative Participation	Independent Participation	Likes School	Avoids School	Comfortable with teacher
Behavioural difficulties (Teacher CBCL)					
Affective	-0.289	**-.513***	-0.383	0.318	0.005
Anxiety	0.462	0.26	0.126	0.294	0.492
Anxious / depressed	0.308	0.058	0.001	0.272	0.398
Emotional reactivity	-0.008	-0.122	-0.109	0.172	0.353
Somatic	0.036	-0.27	-0.375	0.246	-0.05
Withdrawn	-0.248	**-.534***	-0.342	0.323	-0.246
Attention difficulties	**-.757****	**-.620***	-0.132	0.212	-0.228
Aggression	**-.617***	-0.365	-0.006	0.132	0.029
Pervasive developmental disorder	-0.229	-0.315	-0.282	0.378	-0.108
Attention deficit hyperactivity disorder	**-.748****	**-.584***	-0.087	0.184	-0.184
Oppositional defiant disorder	**-.502***	**-0.391**	0.08	0.238	0.091
Cognitive ability (MSEL)					
Visual reception	0.317	0.442	0.26	0.406	**.574***
Fine motor	0.318	0.486	0.454	0.421	**.622***

Receptive language	0.469	0.488	0.364	0.289	**.598***
Expressive language	0.453	**.603***	0.316	0.284	**.635***
Adaptive function (VABS)					
Communication	**.596***	**.588***	0.124	-0.018	0.493
Daily living skills	0.531	0.505	0.051	-0.212	0.355
Socialisation	0.411	.555*	0.22	0.045	0.519
Motor skills	**.568***	**.721****	0.445	-0.004	**.621***
Adaptive behaviour composite	**.567***	**.727****	0.332	-0.031	**.621***
Autism symptoms (SCQ)					
Total score	0.027	-0.156	-0.286	-0.254	-0.493
Repetitive behaviours (RBS)					
Stereotypic	-0.206	-0.248	0.209	0.129	-0.044
Self-injurious	0.204	0.301	0.353	0.454	-0.025
Compulsive	-0.188	-0.101	0.313	0.09	-0.065
Ritualistic	0.28	0.319	0.343	0.4	0.021
Restricted interests	-0.177	-0.258	0.189	0.49	-0.381

*$p < 0.05$, ** $p < 0.01$

Table 2. Correlation between the social skills subscales of the SSIS and child characteristics at exit

	Communication	Cooperation	Assertion	Responsibility	Empathy	Engagement	Self-control	Social skills scale
Behaviour (Teacher CBCL)								
Affective	-0.434	-0.259	-0.309	-0.487	-0.463	**-.527***	-0.495	**-.501***
Anxiety	0.388	0.3	0.387	0.235	0.408	0.233	0.033	0.328
Anxious / depressed	0.267	0.114	0.286	0.049	0.214	0.124	-0.143	0.152
Emotional reactivity	0.087	-0.245	0.2	-0.276	-0.027	-0.198	-0.419	-0.144
Somatic	-0.333	-0.063	-0.315	-0.177	-0.338	-0.407	-0.47	-0.359
Withdrawn	-0.491	0.078	-0.465	-0.289	-0.447	**-.521***	-0.176	-0.397
Attention difficulties	**-.635****	**-.674****	-0.373	**-.844****	**-.664****	**-.570***	**-.746****	**-.752****
Aggression	-0.239	**-.730****	0.004	**-.789****	-0.449	-0.329	**-.738****	**-.535***
Pervasive developmental disorder	-0.371	0.12	-0.344	-0.285	-0.316	-0.425	-0.187	-0.313
Attention deficit hyperactivity disorder	**-.578***	**-.718****	-0.306	**-.873****	**-.656****	**-.568***	**-.808****	**-.749****
Oppositional defiant disorder	-0.207	**-.646****	0.011	**-.680****	-0.405	-0.293	**-.663****	-0.471
Cognitive ability (MSEL)								
Visual reception	**.590***	-0.065	**.660***	0.114	**.591***	**.697****	0.161	0.468
Fine motor	**.606***	-0.03	**.671***	0.14	**.574***	**.733****	0.182	0.492
Receptive language	**.665***	0.101	**.718****	0.29	**.574***	**.792****	0.326	**.600***

Expressive language	**.784****	0.151	**.793****	0.259	**.651***	**.833****	0.321	**.655***
Adaptive function (VABS)								
Communication	**.732****	0.076	**.597***	0.416	**.563***	**.698****	0.319	**.591***
Daily living skills	**.656***	0.145	0.497	0.437	0.479	**.570***	0.372	0.548
Socialisation	**.677***	-0.099	**.695****	0.195	0.443	**.634***	0.096	0.464
Motor skills	**.799****	0.329	**.836****	0.35	0.529	**.717****	0.343	**.680***
Adaptive behaviour composite	**.815****	0.136	**.821****	0.338	**.580***	**.762****	0.261	**.647***
Autism symptoms (SCQ)								
Total score	-0.28	0.482	-0.4	0.218	-0.245	-0.256	0.289	-0.032
Repetitive behaviours (RBS)								
Stereotypic	-0.45	0.09	-0.331	-0.244	-0.358	-0.187	-0.346	-0.294
Self-injurious	0.107	0.29	0.168	0.222	-0.084	0.303	0.239	0.213
Compulsive	-0.291	0.099	-0.095	-0.194	-0.195	-0.03	-0.211	-0.153
Ritualistic	0.176	0.396	0.199	0.322	-0.044	0.319	0.317	0.289
Restricted interests	-0.38	0.035	-0.362	-0.029	-0.405	-0.121	-0.089	-0.201

*$p < 0.05$, ** $p < 0.01$

Table 3. Correlation between the problem behaviours subscales of the SSIS and child characteristics at exit

	Bullying	Hyperactivity/ Inattention	Externalising	Internalising	Problem behaviours scale	Academic competence scale
Behaviour (Teacher CBCL)						
Affective	0.328	0.357	0.303	**.680****	0.448	0.328
Anxiety	-0.096	-0.245	-0.106	0.11	-0.139	-0.096
Anxious / depressed	0.027	-0.074	0.033	0.208	0.015	0.027
Emotional reactivity	0.294	0.2	0.319	0.26	0.273	0.294
Somatic	-0.056	0.155	0.026	**.660****	0.191	-0.056
Withdrawn	0.03	0.105	-0.054	**.663****	0.207	0.03
Attention difficulties	**.702****	**.820****	**.739****	**.603***	**.837****	**.702****
Aggression	**.719****	**.716****	**.792****	0.24	**.702****	**.719****
Pervasive developmental disorder	0.088	0.092	0.022	.609*	0.21	0.088
Attention deficit hyperactivity disorder	**.710****	**.837****	**.769****	**.514***	**.832****	**.710****
Oppositional defiant disorder	**.619***	**.653****	**.723****	0.268	**.655****	**.619***
Cognitive ability (MSEL)						
Visual reception	0.233	0.005	0.218	-0.145	0.001	0.158
Fine motor	0.232	0.013	0.245	-0.28	0.00	0.101

Receptive language	0.097	-0.086	0.145	-0.167	-0.066	0.201
Expressive language	0.158	-0.119	0.146	-0.204	-0.08	0.093
Adaptive function (VABS)						
Communication	-0.083	-0.315	-0.095	-0.476	-0.374	-0.214
Daily living skills	-0.099	-0.374	-0.201	-0.452	-0.415	-0.025
Socialisation	0.243	-0.006	0.245	-0.237	-0.051	0.013
Motor skills	0.166	-0.186	0.113	-0.078	-0.104	0.384
Adaptive behaviour composite	0.149	-0.164	0.125	-0.257	-0.171	0.227
Autism symptoms (SCQ)						
Total score	-0.382	-0.296	-0.443	0.497	-0.138	0.404
Repetitive behaviours (RBS)						
Stereotypic	-0.228	0.023	-0.05	0.088	0.113	0.334
Self-injurious	0.004	-0.112	-0.031	0.255	0.033	0.41
Compulsive	-0.032	0.133	0.136	0.267	0.256	0.314
Ritualistic	-0.147	-0.188	-0.098	0.237	-0.045	0.36
Restricted interests	-0.14	0.075	0.031	0.317	0.17	0.179

*$p < 0.05$, ** $p < 0.01$

Table 4. Correlation between parent quality of life and child and parent characteristics at exit

	General quality of Life (mother)	Impact of autism symptoms (mother)	General quality of Life (father)	Impact of autism symptoms (father)
Behaviour (Parent CBCL)	-0.444	-0.12	-0.363	-0.081
Affective	-0.08	-0.069	-0.274	-0.203
Anxiety	-0.167	-0.127	-0.285	-0.167
Anxious / depressed	-0.398	-0.207	-0.461	-0.104
Emotional reactivity	-0.034	-0.092	-0.522	0.256
Somatic	-0.309	-0.079	-0.357	-0.206
Withdrawn	-0.159	-0.081	-0.261	-0.126
Attention difficulties	-0.375	-0.217	-0.413	-0.291
Aggression	-0.291	-0.099	-0.555	-0.398
Sleep	-0.398	-0.207	-0.461	-0.104
Pervasive developmental disorder	-0.399	-0.254	**-.614***	-0.291
Attention deficit hyperactivity disorder	-0.374	-0.256	-0.32	-0.302
Oppositional defiant disorder	-0.444	-0.12	-0.363	-0.081
Cognitive ability (MSEL)				
Visual reception	0.195	0.275	0.035	0.246
Fine motor	0.242	0.22	0.213	0.105
Receptive language	0.167	0.212	-0.041	0.156
Expressive language	0.009	0.06	-0.146	0.003
Adaptive function (VABS)				
Communication	0.076	-0.023	-0.255	0.431
Daily living skills	0.209	0.041	-0.302	0.256
Socialisation	0.116	0.031	-0.17	0.243
Motor skills	-0.056	-0.273	-0.342	-0.154
Adaptive behaviour composite	0.088	-0.051	-0.279	0.206
Autism symptoms (SCQ)				
Total score	-0.394	-0.434	**-.672***	-0.513
Repetitive behaviours (RBS)				
Stereotypic	0.159	-0.453	-0.672	-0.691

Self-injurious	-0.587	**-.915****	-0.618	**-.891***
Compulsive	0.104	-0.429	-0.739	-0.718
Ritualistic	-0.596	**-.869****	-0.704	-0.572
Restricted interests	-0.112	**-.692***	-0.239	-0.381
Social skills at school transition (Parent SSIS)				
Communication	0.339	0.131	0.122	0.094
Cooperation	**.446***	0.101	**.680***	0.33
Assertion	-0.031	-0.084	-0.048	-0.042
Responsibility	0.399	0.173	0.286	0.38
Empathy	0.043	-0.012	0.591	0.004
Engage	0.029	0.097	0.194	0.139
Self-Control	**.481***	0.354	0.463	**.722***
Social skills scale	0.28	0.129	0.356	0.274
Bullying	-0.241	-0.229	-0.118	-0.299
Hyperactivity / Inattention	**-.524****	-0.282	-0.547	-0.175
Problem behaviours scale	**-.463***	-0.324	-0.417	-0.131
Externalising	**-.463***	-0.185	-0.228	-0.201
Internalising	-0.351	-0.364	-0.425	-0.181
Parental stress (PSI)				
Mother: Parental distress	**-.861****	**-.736***	-0.777	-0.807
Mother: Parent-child dysfunctional interaction	-0.157	**-.721***	-0.487	-0.689
Mother: Difficult child	-0.269	-0.608	-0.544	-0.419
Father: Parental distress	**-.904***	-0.873	**-.943***	**-.944***
Father: Parent-child dysfunctional interaction	-0.808	-0.775	**-.933***	**-.940***
Father: Difficult child	**-.887***	-0.785	**-.986****	-0.834

*$p < 0.05$, ** $p < 0.01$