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From early intervention to elementary school: A survey of transition support practices for children with autism spectrum disorders

Laura Fontil*, Ingrid E. Sladeczek, Jalisa Gittens, Nataliya Kubishyn, Kothar Habib

Department of Educational and Counselling Psychology, McGill University, Montreal, Quebec H3A 1Y2, Canada

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ABSTRACT

Background: Early school transitions can be difficult for children, however, children with autism spectrum disorders (ASDs) often experience greater difficulty making the transition into school. Transition support practices, such as transition meetings, can facilitate successful school beginnings.

Aims: The aim of the present study was to determine what type and amount of transition support practices early intervention (EI) service providers were implementing to support the transition to school of children with ASDs. Barriers and facilitators to transition planning were also evaluated.

Methods and Procedures: Surveys were completed by program directors of 164 EI service providers across Canada. Program directors reported on transition support practices in use, as well as program level characteristics.

Outcomes and Results: Overall, Canadian EI providers reported using a high frequency of high-quality, individualized transition supports for children with ASD. Major barriers included a lack of government support and elementary school engagement. Specialized transition training and offering ASD-specific services were related to an increase in transition supports.

Conclusions and Implications: The present study highlights areas for improvement in transition support practice and policy. Namely, increased government support could lead to increased levels of elementary school engagement, which has important implications for children's long- and short-term educational outcomes.

What this paper adds?

The current study investigates the state of transition to school supports for children with autism spectrum disorders (ASDs) in Canada. The transition to school is an exciting and important milestone for children and families. Children with ASDs, and their families, often experience significant difficulty making this transition (Rous, Myers, & Stricklin, 2007). Transition support practices can facilitate this change and are related to improved academic (Ahtola et al., 2011) and socio-emotional outcomes (LoCasale-Crouch, Mashburn, Downer, & Pianta, 2008).

The results demonstrate that early intervention service providers tend to provide children with ASDs and their families with individualized supports, often involving direct contact with families and elementary school staff (i.e., high-impact support). Service

* Corresponding author. Tel.: +1 514-398-4908; fax: +1 514-398-6968.
E-mail addresses: laura.fontil@mail.mcgill.ca (L. Fontil), ingrid.sladeczek@mcgill.ca (I.E. Sladeczek), jalisa.gittens@mail.mcgill.ca (J. Gittens), natalia.kubishyn@gmail.com (N. Kubishyn), kothar.habib@gmail.com (K. Habib).

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providers reported lack of government support and elementary school engagement as significant barriers to the implementation of transition supports. Furthermore, program directors with specialized transition training and programs that offered ASD-specific services tended to implement more transition supports than other programs.

This study is the first large-scale study to look at transition support practices in place for children with ASDs across Canada. Findings corroborate previous studies and suggest that preschool-level staff tend to implement high-intensity transition supports. It extends previous findings by highlighting new preschool-level factors related to the implementation of transition supports.

1. Introduction

Transitioning to elementary school is an important milestone for children and their families. Although exciting, general education classroom teachers report that approximately 50% of their students (including children with disabilities or delays) achieve only moderate to poor levels of success with the transition (Rimm-Kaufman, Pianta, & Cox, 2000). Reported challenges include difficulty following classroom instructions, lack of academic content knowledge, and difficulty working independently (Rimm-Kaufman et al., 2000). The transition to school is difficult for many children but children diagnosed with a neurodevelopmental disorder, such as autism spectrum disorder (ASD), experience several difficult transitions throughout their lives (e.g., hospital to home, early intervention to preschool or school; Rous et al., 2007). Furthermore, Quintero and McIntyre (2011) found that teachers have more concerns regarding the transition to elementary school for children with ASDs compared to children with other neurodevelopmental disabilities.

ASDs refer to a group of neurodevelopmental disorders characterized by impairments in social communication and restrictive or repetitive behaviours or special interests (American Psychiatric Association, 2013). Children with ASD often have difficulty with the unpredictable nature of transitions (Forest, Horner, Lewis-Palmer, & Todd, 2004), which often necessitates appropriate understanding and support. Children with ASDs' social and communication deficits are particularly challenging during the transition to school (Forest et al., 2004). These deficits limit children's interactions with care-takers and peers, complicating their transition to novel social, academic settings (Forest et al., 2004). A recent study (Norbury et al., 2016) suggests that the youngest children in a school year's difficulties adapting to school (behaviourally and academically) are related to their increased language deficits compared to their older peers. Furthermore, school staff rate social skills as more important than academic skills for early school transitions (Wesley & Buysse, 2003), further exacerbating the challenges associated with the transition to school for children with ASDs.

Prevalence rates for ASDs have increased drastically, in recent years, from 1 in 152 children in 2002 (Centers for Disease Control & Prevention, 2007) to 1 in 59 children in 2014 (2018b, Centers for Disease Control & Prevention, 2018a) in the United States and recent Canadian estimates place prevalence rates as high as 1 in 66 children in 2015 (National ASD Surveillance System, 2018). Given this increased prevalence, more children with ASDs are entering our schools and more families will require support and effective interventions to facilitate classroom entry. Additionally, in a sample of 101 children with ASD, White, Scahill, Klin, Koenig, and Volkmar, (2007) found that 57% of children entered regular kindergarten classrooms, 35% entered specialized classrooms, and 7% entered a combination of specialized and regular classrooms. This suggests that many children with ASD will be transitioning into general education classrooms, which may or may not be equipped with the necessary tools and resources.

1.1. Transition to school support

Historically, transition to school has been conceptualized in terms of an individual child's readiness for school or classroom entry (Petriwskyj, Thorpe, & Tayler, 2005), which implies that children must enter school with the social, behavioural, and pre-academic skills necessary to succeed (Petriwskyj et al., 2005). This conceptualization is problematic for children with exceptionalities, such as ASD, who may not enter school with the same prerequisite skills as their neurotypical peers. Recent researchers have re-conceptualised school readiness and have broadened their scope to understand readiness in terms of *all* children's readiness for school, families' readiness for the transition, and school's readiness for children (Dockett & Perry, 2013; Petriwskyj et al., 2005; Pianta & Kraft-Sayre, 2003).

There is some evidence that supports interventions aimed at developing children's school readiness, by developing their school skills (e.g., Pears, Kim, & Fisher, 2012), however, their impact may be limited without an understanding of how schools can be better prepared to receive the increasingly diverse set of students entering their classrooms. Researchers have found that the implementation of transition practices (e.g., transition meetings, school visits) have a positive impact on children's academic achievement (Ahtola et al., 2011; Schulting, Malone, & Dodge, 2005) and socio-emotional functioning (LoCasale-Crouch et al., 2008) and may serve as an important protective factor associated with better psychosocial and educational outcomes for children, in general. Results of studies on ASD and transition (e.g., Denkyirah & Agbeke, 2010; Fontil & Petrakos, 2015) also highlight the importance of individualized, high-impact, collaborative transition practices for children with ASDs and their families, supported by early childhood setting and elementary school staff. For example, caregivers reported feeling more at ease with their child's (with ASD) transition to school when they reported receiving more transition support and had established meaningful relationships with elementary school staff (e.g., communication, collaboration; Fontil & Petrakos, 2015).

Currently, best practice recommendations for successful school transitions promote increased communication and collaboration between early childhood settings, kindergarten, and home environments in addition to the alignment or coordination of services (e.g., Pianta & Kraft-Sayre, 2003). According to Peters (2010), successful school transitions result in children's increased sense of belonging. Following successful transitions children's culture is recognized and respected; children develop positive relationships with friends, parents, and school staff; and they are engaged in learning and are being appropriately challenged by their teachers who have

positive expectations of their abilities; children identify themselves as learners; and continuity is supported (e.g., sharing information concerning children between early childhood settings and schools; Peters, 2010).

1.2. Transition support policy

Rous and Hallam (2012) have recently discussed the need for policy analyses on transition to school practices and policies for children with disabilities. Currently, children from vulnerable populations are receiving the fewest supports when preparing for the transition to school (Daley, Munk, & Carlson, 2011; Early, Pianta, Taylor, & Cox, 2001; Schulting et al., 2005). For example, low-income children with and without disabilities receive fewer transition supports compared to their higher income peers (Daley et al., 2011; Schulting et al., 2005), despite the increased academic benefits for these children (Schulting et al., 2005). Additionally, Quintero and McIntyre (2011) found that despite teachers increased concerns regarding the transition to school for children with ASD compared to those with other developmental disabilities, level of involvement in transition support remained the same between both groups. The implications of this are vast. Recent cost-benefit analyses illustrate that early intervention (EI) for vulnerable populations, can enhance children's future employability and income in adulthood reducing expenditure by $4.9 billion and generating $8.2 billion in tax revenues (Trefler, 2009). According to Guralnick's (2017) developmental systems model of EI, transition planning is the final component of an ecological, comprehensive EI system.

Although the importance of a successful transition to school has been highlighted at an international level (e.g., Akatsuka, 2013; Connolly & Gersch, 2016; Lillvist & Wilder, 2017), up to date, rigorous policy analyses of the implementation of transition to school practices is lacking (Daley et al., 2011). In the United States only two large-scale studies have investigated transition planning for children with disabilities at a national level. The National Center for Early Development and Learning (NCEDL) Transition Practices Study (La Paro, Pianta, & Cox, 2000), which is more than a decade old, investigated approximately 3500 teacher-reported transition practices. More specifically, general education kindergarten teachers were asked to complete a survey and report on type of transition support practices implemented to facilitate children's transition to school. The authors also distinguished between teachers who did and did not serve at least one child receiving special education services. More recently the Pre-Elementary Education Longitudinal Study (PEELS) (e.g., Markowitz et al., 2006), which is the first nationally representative set of data of children in special education, interviewed families of preschool-aged children with disabilities on a variety of topics (e.g., health, school, behaviour). Participating children's kindergarten teachers completed a questionnaire on classroom characteristics and implemented transition supports. Few studies have investigated preschool teacher involvement (e.g., LoCasale-Crouch et al., 2008; Quintero & McIntyre, 2011; Welchons & McIntyre, 2015), and even fewer have looked exclusively at the transition practices of preschool or EI service providers of children with ASD (e.g., Levy & Perry, 2008).

In a recent qualitative investigation of parent, researcher, and policymakers' perceptions of autism policy in Canada, Shepherd and Waddell (2015) found that parents, reflecting on their child's experiences, reported several challenges with their child's transition to school (e.g., drop in EI services, bullying). Although most teachers find transition practices helpful, fewer teachers implement these practices than the number of teachers who endorse them (Einarsdottir, Perry, & Dockett, 2008). Rous, Hallam, McCormick, and Cox, (2010) found that teachers with early childhood education (ECE) credentials and more teaching experience utilized transition practices more frequently and tailored these practices to individual needs more often. The strongest predictor of transition practice use, however, was specialized transition training. It will also be important to understand other factors that may influence implementation, such as preschool-level factors (e.g., program size, population serviced; Ahtola et al., 2011).

In Canada, each province and territory has a distinct ministry or department of education, which develops their own special education policies (Crawford, 2005). In general, Canadian jurisdictions support the inclusion of children with developmental delays and disabilities into schools; however, none of the provincial or territorial guidance documents provide comprehensive or detailed information regarding the transition to school process (Janus & Siddiqua, 2018). Overall, a clearer understanding of Canadian transition policy is important to help identify factors related to the regulation and implementation of transition practices.

1.3. Research objectives

The purpose of the current study is to understand the nature of transition support practices for children with ASDs in Canada. The following research questions guide this inquiry: (a) What type and amount of transition support do children with ASDs receive in Canada as they prepare to enter kindergarten? (b) How do these Canadian transition practices compare to those reported in previous large-scale studies on transition supports (i.e., the NCEDL and PEELS studies)? (c) What are the systemic facilitators and barriers to transition planning among Canadian specialized preschool service providers? Based on representative studies conducted in the United States, it was hypothesized that service providers with ECE credentials and specialized transition training will be more likely to implement high-intensity transition practices as seen in the literature (e.g., Early et al., 2001; Rous et al., 2010).

2. Method

2.1. Participants

EI community and school-based organizations that work with children with ASDs and their families were targeted. In the current study, EI refers to a wide array of services (e.g., medical, developmental, life skills, academic, speech) that aim to prevent, improve, or remediate limitations related to childhood disability or delay (McCollum, 2002; Poling & Edwards, 2014). Organizations that work

with children with more global challenges were also targeted if they also serviced children with ASD. Service providers were recruited through provincial government listings of licensed childcare services and federal organization resource listings (e.g., Canadian Childcare Directory). Additionally, an online search of EI service providers was conducted to further identify a larger number of ASD focused service providers. Inclusion criteria required that service providers provided: (a) services to preschool age children with ASD and (b) service providers had to function independently of an elementary school (i.e., no in-house service providers).

Telephone and/or email contact was attempted with 764 specialized service providers for preschool aged children with ASDs across Canada. Direct contact was established with 582 providers. Of the 582 providers contacted, 203 did not meet inclusionary criteria, 92 declined participation, 26 eligible providers later declined participation, and another 82 agreed to participate but either did not begin the survey or did not complete a sufficient proportion of the survey. Please note, an additional 15 providers declined participation because they were already participating through a related site. These participants were not included in the response rate calculation. In total, 164 service providers completed the survey and a response rate of 45% was achieved. Response rate varied significantly by province and territory (0–62.5%). In general, research studies achieve a response rate of 50% (Fincham, 2008), however, desirable rates are generally 60% or higher (Gordon, 2002; Nulty, 2008). Despite this, Morton, Bandara, Robinson, and Carr, (2012) report that low response rates may still be able to yield accurate results.

The sample size was based on an a priori analysis using a sample size technique for descriptive studies (Hulley, Cummings, Browner, Grady, & Newman, 2013). In order to determine the mean frequency of transition practices in a population of specialized preschool service providers with a 95% confidence interval of $+/-$ 0.25 transition practices, Daley et al. (2011) transition practices standard deviations (SDs) were used to estimate the appropriate sample size. Results of the power analysis revealed that a minimum of 171 participants were necessary for the present study. The current sample size ($n = 164$) was somewhat short of the recommended size for descriptive studies.

2.2. Measures

2.2.1. Transition to school inventory

For the purposes of this investigation the Transition to School Inventory was adapted from the National Center for Special Education Research's PEELS Early Childhood Program Director Questionnaire. It is a self-report questionnaire for service providers of children with disabilities and their families. The original inventory is divided into the following four sections: *About Your Program, About the Children and Families You Serve, About Your Staff*, and *About You*. The *About Your Transition Supports* section was created for the purposes of the current investigation and it gathers information regarding transition supports currently in use.

For the purposes of this study, questions regarding transition practices were a primary area of investigation. Similar to questions asked in Rous et al. (2010), participants were asked whether they believe each practice is necessary, not necessary, or necessary but difficult to implement due to barriers. They were also asked if they use each practice with all children or if use is dependent on individual need. Transition to school practices were categorized as either a high- or a low-intensity transition practices in keeping with more recent transition to school research (e.g., Daley et al., 2011; Rous et al., 2010). Neglecting to distinguish between types of services (i.e., using total number of practices) renders researchers unable to understand the potential differential impact of types of services. High-intensity transition practices tend to be more individualized and explicitly involve families (Daley et al., 2011; Rous et al., 2010). Additionally, high-intensity practices can involve the coordination of services across programs. For the purposes of this investigation, and based on categories utilized by Daley et al. (2011) and Rous et al. (2010) high-intensity practices include activities such as arranging for children to visit their next program before the transition and including future kindergarten teachers in transition meetings. Low-intensity transition practices (i.e., whole-group activities, generally lack direct contact) include sending informational brochures or flyers to families before the transition to kindergarten. For a complete summary of included practices, please refer to Table 1.

A sum of each high- (13 items) and low-intensity transition practices (6 items) was calculated to produce two new variables, Total High-Intensity Practices (THIP) and Total Low-Intensity Practices (TLIP). An item reliability analysis was conducted and the THIP and TLIP each had good internal consistency (Cronbach's alpha of .86 and .74, respectively). Corrected item-total correlations ranged from .36 to .75 for the THIP variable and between .35 and .57 for TLIP variable. Nunnaly and Bernstein report that .70 is an acceptable minimum for an internal consistency coefficient for a newly developed scale. Furthermore, Ferketich (1991) recommends a range of .30 and .70 for corrected item-total correlations for a well-developed scale.

2.3. Procedure

Organizations were initially contacted by phone or email to ascertain interest in the study. Service providers who agreed to participate provided consent to participate via the electronic questionnaire. Recent research suggests, that web-based questionnaires are more time and cost-efficient than paper-based questionnaires (Hunter, Corcoran, Leeder, & Phelps, 2013; Uhlig, Seitz, Eter, Promesberger, & Busse, 2014). Program directors of participating organizations were asked to complete the surveys within two weeks. Service providers were given a link to the electronic questionnaire by e-mail, where they were able to enter responses directly online. The survey took providers between 30 and 45 min to complete. Participants were sent reminder messages (by phone and/or email) to complete the questionnaire approximately every two weeks. Participants were provided the opportunity to receive a summary of the survey results and recommendations for best practices for supporting successful school transitions for children with ASDs, following the study's completion. Ethics approval was obtained from the primary investigator's university.

2.4. Statistical analyses

Descriptive statistics were calculated for service provider variables. The frequency of individual transition practices used and service providers' perceptions of their necessity were calculated. A subset of these practices was compared to data from previous large-scale studies on transition practices (PEELS and the NCEDL studies). Reported transition support barriers and facilitators were also calculated. A series of t-tests and ANOVAs were conducted to help describe potential facilitators and barriers to transition practice use, with THIP and TLIP as the dependent variables. More specifically, the following between-group comparisons were conducted to determine preschool-level factors associated with high- and low-intensity transition practice use: a) Program directors' education, b) Specialized transition training, and c) Program's initial purpose/target population. Variables were assessed for homogeneity assumptions and normality. Unless otherwise noted, assumptions of homogeneity were met. Indices of kurtosis and skewness were acquired to evaluate normality in the distribution of scores for each dependent variable. THIP was skewed and was therefore transformed using a log transformation. Test statistical significance was set at $p < 0.05$.

3. Results

3.1. Characteristics of the service providers

In total, 160 participants indicated a general description of their organizations. The majority of participating organizations described themselves as private non-profit organizations (43.1%). Private for profit organizations accounted for 13.8% of the participant pool. Two percent were described as public agencies related to education and another 29.4% as other public agencies. The remaining 11.9% selected "other" as their program description. When asked to describe the community in which their program was located, 161 of the 164 participants provided data. Most sites were located within a rural community or a small city/town with fewer than 50,000 residents (46.6%), 29.1% were in medium to large sized cities, and 21.1% in very large cities. The remaining 3.1% were on a military base or an aboriginal reservation. On average programs had been in operation for 24.21 years ($SD = 16.60$) and 29.2% (of the 161 participants who indicated responses) indicated their programs were initially established for children with ASDs. Programs offered a wide range of services, including: assistive technology, behaviour management services, consultation, family training, occupational therapy, physical therapy, psychological services, respite care, speech and language services, among others. On average programs offered 16.68 ($SD = 8.13$) types of services (either direct or through contracts with independent providers). The following provinces and territories are represented in this study: Alberta (9.1%), British Columbia (22.0%), Manitoba (4.9%), New Brunswick (6.1%), Newfoundland and Labrador (7.3%), Northwest Territories (0.6%), Nova Scotia (7.9%), Nunavut (0.6%), Ontario (22.0%), Prince Edward Island (5.5%), Quebec (4.9%), and Saskatchewan (9.1%).

On average, program directors reported working in the field of ECE for 19.13 years ($SD = 9.99$) and working in this field as a program director for 13.75 years ($SD = 8.92$). Level of education was indicated on 152 of the 164 responses. Of the 152 responses, 11.2% reported having received a high school diploma (or GED) or less, 19.1% received an associate's degree, 36.8% received a bachelor's degree, and the remaining 32.9% received a graduate's degree. More than half of program directors (60.8%) reported having an ECE or early childhood special education (ECSE) credential (at the bachelor's level or higher). Out of 150 participants, only 36.7% reported that they received transition training .

3.2. Reported transition practice use

On average, service providers reported using 9.92 ($SD = 2.98$) out of the 13 high-intensity transition practices included in the inventory and 2.77 ($SD = 1.90$) of the 6 low-intensity practices. In general, a higher proportion of service providers reported using high-intensity practices (from 48.4% to 88.2.0%) compared to low-intensity practices (from 23.0% to 69.6%). The most commonly reported high-impact transition practice was providing information to the receiving program about individual children (88.2%), followed by discussing the transition with caregivers (87.6%), meeting with receiving program staff about individual children (87.0%), encouraging families to meet receiving program staff (83.9%), and holding a transition planning meeting with families (80.7%). Approximately half of providers reported visiting a child's home (49.1%) or contacting their future teacher to develop coordinated curriculums (48.4%). Service providers generally viewed most high-impact transition practices as necessary (i.e., 50% or more rated several practices as "Necessary"), with a few exceptions. Only 31.1% rated contacting teachers to develop coordinated curriculums as necessary. Furthermore, fewer rated including kindergarten teachers in transition meetings, visiting a child's home, and facilitating contact between caregivers of transitioning children as necessary (from 35.3% to 47.7%). More specifically, 50.3% reported home visits were not necessary and nearly 40% reported including teachers in meetings and developing coordinated curriculums were necessary practices but difficult to implement. Another 29.1% viewed having staff from receiving programs visit their program to observe the child and 26.0% viewed participating in individualized education plan development as necessary but difficult.

Overall, fewer providers reported using low-intensity transition practices, with holding a transition open house as the least frequently reported low-intensity practice (23.0%) and kindergarten setting organizing open houses as the most frequently reported low-intensity practice (69.6%). Furthermore, a high proportion viewed receiving information (letter or flyer) from receiving program and kindergarten open houses as necessary (from 66.7 to 75.8%), whereas fewer report these activities as necessary for sending programs to implement. In fact, a high proportion rated these activities as not necessary (from 43.3% to 49.7%). See Table 1 for frequencies and proportions for both high- and low-impact practices.

Table 1
Reported Use of Each Transition Practice by Service Providers and their Perception of the Necessity of Each Practice.

Transition Practice	n (%) of Providers	Perception of Necessity (%)		
		Necessary	Not Necessary	Necessary but Difficult
High-intensity transition practices				
Arrange for child visits to next program	110 (68.3)	63.8	16.4	19.7
Receiving program staff visit program and observe child	114 (70.8)	53.6	17.2	29.1
Provide receiving program info on child	142 (88.2)	87.0	4.5	8.4
Meet with receiving program staff about child	140 (87.0)	73.2	7.2	19.6
Encourage families to meet receiving program staff	135 (83.9)	73.9	10.5	15.7
Staff participates in IEP development	127 (78.9)	57.1	16.9	26.0
Develop participatory strategies for children (e.g., behaviour plans)	129 (80.1)	72.5	10.5	17.0
Discuss transition with caregivers	141 (87.6)	80.3	8.6	11.2
Hold transition meeting with child and family	130 (80.7)	71.9	12.4	15.7
Include future kindergarten teacher in transition meeting	108 (67.1)	42.4	18.5	39.1
Visit child's home	79 (49.1)	35.3	50.3	14.4
Facilitate contact between caregivers of children transitioning	107 (66.5)	47.7	32.7	19.6
Contact future teacher to develop coordinated curriculums	78 (48.4)	31.1	29.8	39.1
Low-intensity transition practices				
Send caregivers a letter preparing them for the transition	70 (43.5)	50.7	43.3	6.0
Send informational flyer home before the transition	62 (38.5)	43.0	47.7	9.4
Hold an open house for families about the transition	37 (23.0)	32.2	49.7	18.1
Families receive letter from receiving program about transition	87 (54.0)	66.7	25.9	7.5
Families receive informational flyer home from receiving program	78 (48.4)	68.3	25.5	6.2
Kindergarten settings organize open houses	112 (69.6)	75.8	17.4	6.7

For each transition practice included in the inventory, providers were asked to indicate if their program provides the support and if so they were asked to specify if it was offered to all children or if its use was dependent on individual need. Several practices appear to be implemented for all children at a higher frequency. Such as, providing the receiving program with information on children (61.5%), encouraging families to meet receiving program staff (62.0%), and kindergarten programs organizing open houses (62.5%). Others are more likely to be reserved for children in need. These include arranging for children to visit the receiving program (36.3%), having receiving staff visit program to observe children (44.3%), including kindergarten teacher in transition meetings (37.4%), and developing coordinated curriculums (35.5%). See Table 2 for a breakdown of proportions by method of implementation

Table 2
Proportion of Transition Practices Used for All Children and for those in Need.

Transition Practice	% for All Children	% for Those in Need
High-intensity transition practices		
Arrange for child visits to next program	33.8	36.3
Receiving program staff visit program and observe child	27.8	44.3
Provide receiving program info (e.g. assessment) on child	61.5	26.7
Meet with receiving program staff about individual children	47.2	39.8
Encourage families to meet receiving program staff	62.0	23.4
Staff participates in IEP development	40.4	38.5
Develop participatory strategies for children (e.g., behaviour plans)	41.5	39.6
Discuss transition with caregivers	56.3	32.9
Hold transition meeting with child and family	46.5	35.2
Include future kindergarten teacher in transition meeting	32.3	37.4
Visit child's home	28.8	21.8
Facilitate contact between caregivers of children transitioning	39.5	28.7
Contact future teacher to develop coordinated curriculums	14.8	35.5
Low-intensity transition practices		
Send caregivers a letter preparing them for the transition	32.0	13.7
Send informational flyer home before the transition	29.0	11.0
Hold an open house for families about the transition	18.2	5.8
Families receive letter from receiving program about transition	44.7	12.5
Families receive informational flyer home from receiving program	42.3	10.1
Kindergarten settings organize open houses	62.5	11.2

Table 3
Use of Each Transition Practice with Comparison to NCEDL and PEELS Transition Study Data.

Transition Practice	CTS	PEELS	NCEDL
Sending program provided information to receiving	88.2	81.2	–
Receiving program provided parents with a letter/flyer	54.0/48.4	71.0	61.7/67.7
Caregivers encouraged to meet receiving program staff	83.9	84.0	41.7
Child and family visited classroom/Attended open house	68.3/69.6	77.1	20.2/62.7
Home visit	49.1	8.3	4.5
Receiving staff visited child's previous setting	70.8	43.2	11.8
Program met with staff of previous setting	87.0	59.2	19.6
Participated in development of child's IEP	78.9	67.9	–
Developed preparatory strategies for child	80.1	55.8	16.0

Note: PEELS data taken from Daley et al. (2011) and NCEDL data from La Paro et al. (2000). CTS = Canadian Transition Study. Cells marked with - were not applicable.

(i.e., for all children vs. those in need).

3.3. Comparing service provider transition practice use to kindergarten teacher practices in the PEELS and NCEDL transition studies

A subset of transition practices reported by service providers in the current study have been presented in Table 3, with a comparison to practices reported by kindergarten teachers in the PEELS (Daley et al., 2011) and NCEDL (La Paro et al., 2000) transition studies. Please note, however, comparisons between studies should be interpreted with caution due to several factors. Namely, the number of survey items, format, respondents (EI program directors vs. kindergarten teachers) and primary focus (ASD vs. disabilities in general) of each study is not equivalent. A larger proportion of EI service providers (i.e., program directors) reported use of several transition practices compared to kindergarten teachers in the PEELS and NCEDL studies (e.g., program staff meeting with previous setting, home visit). However, PEELS data and current data were similar in other domains (e.g., encouraging parents to meet receiving staff, providing information to receiving staff). NCEDL participants, generally, reported use of the fewest transition supports or practices.

3.4. Common reported barriers and facilitators

The most commonly reported barrier to implementing transition support practices was lack of government funding and support (60.4%), followed by difficulty engaging kindergarten staff (46.3%). Late generation of class lists was only viewed as a barrier from 28.0% of respondents. Alternatively, sufficient government support was the most commonly reported transition practice facilitator. Transition support training was only viewed as a facilitator to 38.4% of respondents. See Table 4 for frequencies and proportions of reported barriers and facilitators.

Table 4
Frequently Reported Barriers and Facilitators to Transition Planning.

Variable	Yes (%)	No (%)
Barriers		
Lack of government funding/support	99 (60.4)	65 (39.6)
Difficulty engaging kindergarten school staff	76 (46.3)	88 (53.7)
Difficulty engaging children's caregivers	46 (28.0)	118 (72.0)
Lack of transition support training	63 (38.4)	101 (61.6)
Late generation of class lists	46 (28.0)	118 (72.0)
Lack of time to coordinate transition support	56 (34.1)	108 (65.9)
Facilitators		
Necessary government funding/support	95 (57.9)	69 (42.1)
Transition support training	63 (38.4)	101 (61.6)

3.5. Preschool-level factors affecting high- and low-impact transition practice use

3.5.1. Program directors' education

The total number of high- and low-impact transition practice use reported by program directors with and without ECE credentials (associate, bachelor's, and/or graduate level) was compared using a t-test. No significant group differences were found in number of high- ($t(141) = -0.33$, $p = .74$) or low-intensity ($t(135.25) = -0.98$, $p = 0.33$) transition practices reported by program directors with and without ECE credentials. Levene's test for equality of variances indicated unequal variances for low-impact transition practice use ($F = 4.26$, $p = 0.04$), so degrees of freedom were adjusted from 145 to 135.25.

3.5.2. Specialized transition planning training

Transition practice use reported by program directors with and without specialized transition planning training was compared using a t-test. Results indicated a significant group difference in total number of high-impact transition practices reported ($t(144) = -2.72$, $p = 0.01$). Program directors who had received transition planning training implemented significantly more high-impact transition practices ($M = 10.58$, $SD = 2.87$) than those who had not received training ($M = 9.47$, $SD = 3.02$). A significant group difference was also found in total number of low-impact practices reported ($t(147) = 2.05$, $p = 0.04$), such that directors who had received training used significantly more low-impact practices ($M = 3.22$, $SD = 1.87$) than those who had not received training ($M = 2.56$, $SD = 1.88$).

3.5.3. Program's specific purpose

The current sample of service providers address the needs of children with various challenges. To isolate settings specializing in supporting children with ASDs, program directors were asked whether or not their program was established for the specific purpose of providing services to children with ASDs. Settings specializing in supporting children with ASD ($M = 11.53$, $SD = 1.79$) reported using significantly more high-impact transition practices than those that did not ($M = 9.22$, $SD = 3.13$) specialize in ASD ($t(150) = -5.03$, $p = 0.00$). No significant differences were found for use of low-impact transition practices ($t(156) = 1.33$, $p = 0.19$).

4. Discussion

Overall, results of the current investigation reveal that Canadian EI service providers are using a variety of both high- and low-impact transition supports. Furthermore, they are using a higher proportion of high-impact, rather than low-impact transition supports when compared to previous large-scale studies on transition support practices (i.e., Daley et al., 2011; La Paro et al., 2000). Previous studies have found that elementary school staff tend to use more generic, group level transition practices (Daley et al., 2011; La Paro et al., 2000), while preschool staff tend to report using both individualized (i.e., high-impact) and generic practices (LoCasale-Crouch et al., 2008; Welchons & McIntyre, 2015). The most frequently reported preschool teacher transition practices have included talking to parents prior to and after the transition to school, promoting parental involvement, and making written records available to kindergarten teachers (Rous et al., 2010). The current study similarly found that EI service providers reported discussing the transition with caregivers, encouraging families to meet with receiving program staff, and providing receiving program staff with information on individual children at a high frequency.

A recent parent survey, conducted by the Ontario Autism Coalition, found that 72% of parents with children with ASD felt that their children were not receiving adequate levels of support at school (Ontario Autism Coalition, 2017). Given the increased fragility of vulnerable children's (e.g., ASD) development, Guralnick (2005), 2017) developmental systems model of EI suggests that transition planning and access to seamless services is critical in facilitating successful early school beginnings for children with neurodevelopmental disorders. Collaborative transition practices (home, school, and early childhood settings) may be the key to supporting families and schools in the implementation of adequate school services for children with ASDs. The current study has shed light on the transition support strategies currently in use for children with ASDs and their families preparing for the transition to elementary school in Canada.

In general, the current study corroborates previous research and suggests that preschool-level staff tend to implement high-intensity transition supports when compared to elementary school staff (Pianta & Kraft-Sayre, 2003). In an investigation of intensive behavioural intervention (IBI) program and elementary school staff perceptions of transition supports, IBI staff tended to rate a higher proportion of transition supports as important compared to elementary school staff (Levy & Perry, 2008). Taken together, this suggests that elementary school staff may either lack the resources to implement high-impact or high quality transition supports or they may lack an awareness of the importance of such practices. Alternatively, EI or preschool level staff may have more time, fewer child to staff ratios, and more opportunities for direct family contact.

Communication and collaboration between sending and receiving program staff has been shown to positively impact children's academic achievement and their socio-emotional functioning (Ahtola et al., 2011; LoCasale-Crouch et al., 2008; Schulting et al., 2005). Ahtola et al. (2011) found that the greater the variety of transition practices implemented, the more children's academic skills developed in their first year of school. Preschool teachers passing information regarding children's education plan to elementary school teachers and the revision of student curricula based on need were the most significant predictors of increased skill development (Ahtola et al., 2011). In the current study service providers frequently reported providing information to elementary school staff, however, the development of coordinated curriculums was reported less frequently and was often cited as necessary but difficult to implement. Coordinated curriculums refer to the alignment and coordination of children's experiences across grades and across environments. It necessitates communication and collaboration between teachers and early childhood setting staff to support the

development of a shared conceptualization of learning goals (Bogard & Takanishi, 2005).

Schulting et al. (2005) found that child and parent classroom visits, prior to the transition to school, had a direct impact on children's academic achievement. Additionally, collaboration between pre- and elementary school teachers and parents meeting teachers prior to the transition to school were also marginally related to children's academic outcomes. LoCasale-Crouch et al. (2008) found that contact between preschool and elementary school teachers was the strongest predictor of adaptive socio-emotional functioning. In the present study, approximately 70% of service providers reported arranging child school visits, 87% reported meeting with receiving program staff to discuss individual child needs, and 85% reported encouraging families to meet with receiving program staff, further supporting the notion that EI service providers implement high-intensity supports for children with ASDs making the transition to school.

Transition support practices such as school visits, communication, and exchanges in meaningful information underscore some essential features of transition support practices. These collaborative practices can be the building blocks of a positive and trusting relationship between home and school. Initial home-school interactions for children with exceptionalities can often be problem-focused (i.e., schools often contact families after a conflict has arisen). Through the process of transition planning, a child's stakeholders are provided with several opportunities to establish positive, direct contact prior to school entry (and potential crises).

In addition to using high-intensity transition supports, service providers, in the present sample, also reported often using practices on an as needed basis. Children with ASDs represent a highly heterogeneous group (Masi, DeMayo, Glozier, & Guastella, 2017). Children will vary among multiple dimensions, such as ASD severity (Gotham, Pickles, & Lord, 2012), sensory needs (Cermak, Curtin, & Bandini, 2010), language ability (Pickles, Anderson, & Lord, 2014), cognitive ability, and social-communicative functioning (Joseph, Tager-Flusberg, & Lord, 2002). Given this high level of heterogeneity, best practices for supporting children with ASD promote the use of individualized intervention strategies (Mesibov & Shea, 2010), which falls in line with the method of transition support endorsed by several service providers in the present sample. Sites that were developed for children with ASDs also reported using more high-intensity transition support practices, compared to sites that primarily support children with disabilities in general, which suggests that caregivers receiving specialized ASD services are more likely to receive high-impact transition support. Providers working with this population may be more aware of the increased challenges involved in transition for children with ASDs compared to other children (Janus, Lefort, Cameron, & Kopechanski, 2007).

Government support and elementary school engagement were cited as leading barriers and facilitators to transition support practice, whereas the late generation of classroom lists was infrequently cited as a barrier. Furthermore, transition support practices involving elementary school staff (e.g., coordinated curriculum, including teachers in transition meetings) were frequently cited as necessary but difficulty to implement. In the general literature on transition to school support, elementary school staff often cite lack of time, lack of funding, and the late generation of classroom lists as barriers to successful school transitions (Pianta & Kraft-Sayre, 2003). This study continues to highlight the structural and systemic barriers to successful school transitions and suggests an important role for government financial support in overcoming these challenges. It also suggests that EI providers may not be aware of the systemic challenges schools are facing when facilitating transitions to school (e.g., classroom lists).

The current investigation has found that specialized transition training was related to increased high-impact transition practice use, however, it did not find a relationship between ECE credentials and transition support use. Previous studies that have found a relationship between ECE and transition support use (e.g., Rous et al., 2010) were generally asking frontline staff (i.e., kindergarten teachers) about their support practices, whereas the current study asked leadership (i.e., program directors). It may be that frontline staff require ECE training to facilitate the implementation of high-intensity transition supports. Furthermore, although specialized training was related to increased high-impact transition practice use, service providers did not frequently report training as a significant barrier or facilitator to transition support use, suggesting its relative importance needs to be highlighted.

When generalizing current findings to a broader population of Canadian EI service providers, several limitations must be discussed. A clear limitation of the current study relates to the study's response rate. Although, 45% of reachable, eligible service providers agreed to take part in the current study, a significant number of potential participants were unreachable and therefore their eligibility status was unknown. It is therefore not possible to determine whether opinions reported in the current study reflect those of the unreachable potential participants. A related limitation is the length of the questionnaire. Research suggests that questionnaires take between 10–20 minutes to complete to reduce response burden, which can potentially lead to fewer completed questionnaires and lower response rates (Rolstad, Adler, & Rydén, 2011). In an attempt to reduce the response burden, program directors had the option to complete the survey at their own pace. Another limitation is that the participant pool represented a heterogeneous group of service providers who offer variable services (e.g., occupational therapy, speech and language services, assistive technology) to children with variable needs (e.g., ASD, disabilities in general). However, given the heterogeneous nature of ASD, typical preschool settings for children with ASD will also vary greatly, which may be more reflective of the heterogeneous group of service providers in the present sample. Finally, program directors' perceptions of transition support practices reported in the current study, may not be reflective of what frontline EI support staff apply in practice. Despite these limitations, the present study is the first large-scale Canadian study focusing on the transition support practices of providers servicing children with ASDs and their families and is an important contribution to the emergent transition and ASD literature.

In conclusion, Canadian EI providers appear to be implementing high quality, individualized transition support practices for children with ASDs. However, several factors either facilitate or hinder the implementation of such practices, the largest barriers being lack of government support and school engagement. Alternatively, specialized transition training and ASD focused services were positively related to the implementation of high quality transition support practices.

An important implication of the current study is the potential role of transition training in supporting successful school transitions for children with ASDs and their families. EI service providers cited lack of school engagement as a major barrier to transition support

practice use and previous studies have reported a lack of high-intensity transition supports at the elementary school level (e.g., Daley et al., 2011). Elementary school staff are likely not equipped with the necessary tools or resources to support school transitions to the same degree as EI staff. Welchons and McIntyre (2015) similarly concluded that a greater emphasis be placed on training elementary school staff on transition support practices. The authors suggested training programs and opportunities for professional development.

Given the long-term implications of early school beginnings, these results highlight the important role governments can take in supporting successful school transitions. Government support can help schools and communities overcome frequently cited challenges (e.g., time, resources). Without these supports children with ASDs are at risk of experiencing a challenging transition to school, which can set the stage for a series of negative transactions, miscommunications, and an absence of adequate supports (e.g., "wait and see approach). Guralnick (2017) developmental systems approach emphasizes the importance of relationships between families, professionals, and school staff. The model also describes integration, coordination, and individualization of services as essential to maximizing a child and families' potential.

Furthermore, a larger proportion of these funds should be allocated to school systems and EI providers that do not specialize in ASD (as they seem to implement fewer high-quality supports). These funds could be used to support training opportunities, teacher release time, the development of coordinated curriculums, payment of teachers during the summer months, which can help teachers overcome previously articulated challenges in supporting transitions (e.g., lack of time, funding). The current study also found that sites with trained program directors tended to report the use of more high-intensity supports than those whose program directors were not trained in transition support. At the elementary school level, this may mean that transition training at the administrative level (e.g., school principals), could be sufficient to increase the quality of transition support services in schools, representing a cost-effective means of targeting children with ASDs and their families.

Future studies should elicit multiple perspectives on transition support (e.g., families, frontline EI staff, and elementary school teachers) to gain a more direct estimate of transition support practices in Canada. Furthermore, a clearer understanding of how many and what kinds of transition practices lead to the best socio-emotional and educational outcomes for children with ASDs and their families is necessary to support targeted, evidence-based intervention plans and can lead governments to make cost-effective budgeting plans based on evidence.

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None.

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