

## Socioaffective Competencies of Children with Autism Spectrum Disorders in Child Care Settings

### Abstract

*The socioaffective competencies of one hundred and fifty children with autism spectrum disorders in regular child care environments were examined. The participants' severity of autism symptoms, intellectual functioning, and adaptive behaviours were evaluated and then analyzed in relation to their levels of socioaffective competencies, as perceived by their early childhood educators. The results showed that 60% of participants presented socioaffective competencies within the norm of their typically developing peers. The profiles of the participants who presented lower socioaffective competencies (in the clinical range) were compared to the profiles of those who had higher socioaffective competencies (in the average range). Higher severity of autism symptoms, lower IQ, and lower adaptive behaviour were associated with lower levels of social adaptation.*

Autism is a complex developmental disorder characterized by deficits in communication and social interaction, accompanied by repetitive and stereotyped interests and behaviours (American Psychological Association, 2000, 2013). This disorder is marked by heterogeneity, which is evident in individual differences in the intensity of symptoms (American Psychiatric Association, 2000, 2013). The term autism spectrum disorder (ASD) illustrates this heterogeneity. It defines autism along a continuum of severity of symptoms and levels of functioning in terms of two domains of deficiencies: social communication (including social skills and language), and restricted range of behaviours and stereotypical interests (American Psychological Association, 2013). Along this continuum, there is also heterogeneity among children with ASD in the presentation of emotional and behavioural problems. Indeed, children with developmental disorders and ASD show higher prevalence of internalizing problems (e.g., anxiety disorders) and externalizing problems (e.g., aggression) than their peers in the general population (Baker, Blacher, Crnic, & Edelbrock, 2002; Emerson, Robertson, & Wood, 2005; Horner, Carr, Strain, Todd, & Reed, 2002; Jang, Dixon, Tarbox, & Granpeesheh, 2011; Matson, Gonzalez, & Rivet, 2008; Matson, Wilkins, & Macken, 2009; Rivard, Paquet, & Mainville, 2011).

The presence of these problems complicates the clinical profiles of children with ASD and has different impacts on them and their caregivers. For example, these problems have important consequences on children's inclusion in natural settings and can limit their access to social and learning environments (Ferraioli & Harris, 2011; Gena & Kymissis, 2001; Matson, 2009; Matson, Neal, Fodstad, & Hess, 2010; Matson & Wilkins, 2007; Rojahn, Aman, Matson, & Mayville,

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#### Keywords

children with autism  
spectrum disorders,  
socioaffective competencies,  
adaptation,  
internalizing behaviors,  
externalizing behaviours,  
child care

2003; Rojahn, Wilkins, Matson, & Boisjoli, 2010). One of the principal social and learning environments in which young children with ASD can be included is in a child care setting. Yet, social, internalizing, and externalizing problems taken together, and their impacts on inclusion in natural child care settings, has not been widely explored in young children with ASD.

Some studies have explored the presence of a social competence deficit, internalizing problems, or externalizing problems in children with ASD (see for example, Machalicek, O'Reilly, Beretvas, Sigafoos, & Lancioni, 2007). However, those problems are generally studied separately in the clinical profiles of children with ASD. One means of looking at the combination of social, internalizing, and externalizing problems is through the concept of socioaffective competencies. Socioaffective competencies refer to an individual's ability to regulate emotions and behave in ways that allow and maintain relationships with others (Hammes, Crepaldi, & Bigras, 2012). According to Hammes et al. (2012), socioaffective competencies include the capacity to communicate, to empathize, and the ability to refrain from aggressive behaviours. Socioaffective competencies can also be described as effectiveness in social interactions (Rose-Krasnor, 1997).

The importance of exploring socioaffective competencies in day care settings is stressed by the current trend of including children with ASD in the most inclusive environments possible, at the earliest possible age. Though early intervention forms that assist such inclusion have been increasingly assessed (see recent articles on early intensive behavioural intervention from Eldevik, Hastings, Hughes, Jahr, Eikeseth, & Cross, 2009; Makrygianni & Reed, 2010; Perry et al., 2011), few empirical studies have directly focused on children with ASD's level of socioaffective competencies in child care settings, compared to their typically developing peers. In addition, the individual characteristics of children with ASD that influence socioaffective competencies in child cares before entering school, outside of specialized services, are not well known. This situation limits our understanding of which supports should be put in place to optimize socioaffective competencies and ultimately the success of inclusion.

The present study aims to (1) describe the socioaffective competencies of children with ASD in child care settings before they receive early intervention, (2) explore the relationship between the children's clinical profiles and their levels of socioaffective competencies, and (3) compare the children identified as having significant socioaffective difficulties to those rated as having more socioaffective competencies.

## Method

This research project was evaluated and accepted by the Joint Research Evaluation Committee at the public service agency in Quebec, Canada, where the research was carried out.

### Participants and Setting

One hundred and fifty children were recruited at the time of their registration in a public agency offering specialized services to children and adults with developmental delays, in Quebec, Canada. All of the participants came from a largely francophone area in the south of Montreal. The inclusion criteria for the study were that the children had to (a) have a diagnosis of ASD confirmed by a multidisciplinary evaluation team specialized in autism, which included a child psychiatrist, (b) be between 2 and 5 years old, and (c) be registered in a day care or preschool program. In order to recruit participants, the researchers met with each of the families who had children eligible for the study, before they started receiving services from the public agency. The objectives of these meetings were to present the research, its objectives, and the parameters of the parents' and children's participation. It was made clear that participation in the study was voluntary and that a refusal to participate would not have an influence on the services that their children and family would receive.

The child care and preschool settings were regular centers in the community that did not have specific integration programs for children with disabilities, and where the majority of children were typically developing. The staff were regular early childhood educators, without specific training in special education or in ASD. The length of time that the educators had

been working with the children varied from less than a month to 52 months. On average, the educators had been working with the children for about 15 months ( $SD=11.6$ ).

The participants were either attending child care (93.4%) or preschool (6.6%) full-time (average weekly hours = 34.4,  $SD = 11.8$ ). The average age of the participants was 3 years and 11 months, ( $SD = 0.6$ , range 2 years, 6 months to 4 years, 11 months), which corresponds to the average age of children in day care settings. The sample contained 33 girls (22 %) and 117 boys (78 %), a distribution that reflects the general population of children with ASD. The participants' family characteristics are presented in Table 1.

The description of the sample shows that the clinical profiles of the participants were very diverse. There were large ranges in intellectual functioning, adaptive behaviour, and autism severity measures. The sample covers the spectrum of autism, from lower to higher func-

tioning. Forty of the 150 participants had a profile corresponding to mild autism symptoms (CARS scores < 30) and high intellectual functioning (WPPSI's global score > 85); all other participants displayed severe autism symptoms and/or low intellectual functioning.

## Measures

**Socioaffective competencies.** The participants' levels of socioaffective competencies were evaluated using the Social Competence and Behaviour Evaluation (SCBE, Lafrenière & Dumas, 1996). This standardized questionnaire is recognized as a convenient and valid instrument to describe socioaffective competencies of children between 2.5 and 6 years old in preschool settings (Bigras & Dessen, 2002). It consists of 80 questions divided into eight subscales that range from positive to negative poles. The subscales are Depressive-Joyful, Anxious-Secure, Angry-Tolerant, Isolated-Integrated, Aggressive-Calm, Egotistical-Prosocial, Oppositional-Cooperative, and Dependant-Autonomous. Items are coded

Table 1. Family Characteristics

Family composition	(%)	<i>n</i>
Nuclear family	82.6	123
Combined family	12.1	18
Single parent family	5.4	8
<i>Family income<sup>a</sup></i>		
Below \$29, 999	15.6	23
\$30, 000 to \$49, 999	24.5	36
\$50, 000 to \$69, 999	18.4	27
\$70, 000 to \$89, 999	18.4	27
Over \$90, 000	23.1	34
<i>Parents' Level of education</i>		
	<i>Mother</i> (%) <i>n</i>	<i>Father</i> (%) <i>n</i>
Secondary, not completed	12.1 (18)	17.5 (24)
Secondary completed	23.5 (35)	29.2 (40)
College completed	28.9 (43)	16.8 (23)
University (bachelors)	28.9 (43)	24.8 (34)
University (graduate studies)	6.7 (10)	11.7 (16)

Note. *N*: number of people in this category; <sup>a</sup> Missing data from one family

from 1 to 6, where a higher score corresponds to more socioaffective competencies. The tool provides T-scores, according to established norms of age and sex, for three domains, Social Competence, Internalizing Problems, and Externalizing Problems, as well as a global score, labeled General Adaptation. T-scores range between 30 and 70. A score equal to or less than 37 means that the child is in the 10<sup>th</sup> percentile of children who have social adaptation difficulties, and is considered to be in the “clinical range” for that domain. For the purpose of this article, we separated scores on SCBE in two possible groups: clinical range (37 or less) or average range (38 or more). The French version of the SCBE (Profil Socio-Affectif, PSA, Lafrenière, Dumas, Capuano, & Dubeau, 1992) was used in this study. The norms and psychometric qualities of the PSA were established on samples of 979 children in Quebec. The global score and the three domains provide a high degree of reliability in terms of internal consistency (Cronbach's alpha .79 to .91), interrater reliability (correlation of .72 to .89), and test-retest reliability (.70 to .87, sample of 29 children) (Lafrenière et al., 1992).

**Severity of autism symptoms.** The Childhood Autism Rating Scale (CARS, Schopler, Reichler, & Renner, 1988) was used to rate the severity of the participants' autism symptoms. The CARS consists of 15 items assessed on a scale ranging from 1 to 4 (no problems to severe problems). Scores vary from 15 to 60, with a higher score reflecting higher severity of autism symptoms. A score lower than 30 indicates that, along a scale, the child does not present the symptoms related to classical autism on a clinical level and does not confirm a diagnosis of autism, as defined in the DSM-IV-TR. However, this score does not eliminate other diagnoses included in ASD such as Asperger syndrome or Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS). The results of the internal consistency (Cronbach's alpha of .94), as well as the test-retest reliability (correlation of .88; sample of 91 children) and inter-rater reliability (correlation of .71; sample of 280 children), demonstrate the strong reliability of the tool (Schopler et al., 1988). Validity was evaluated by comparisons between each participant's CARS scores and an independent diagnostic evaluation by a psychologist and a child psychiatrist (correlation of .84 and .80), as well as their psycho-educational profiles (correlation of .75 and .82) (Schopler et al., 1988).

**Intellectual functioning.** The participants' intellectual functioning was measured using the Wechsler Preschool and Primary Scale of Intelligence (WPPSI-III, Wechsler, 2002), for preschool aged children between 2 years, 5 months and 7 years, 3 months. The WPPSI-III provides a Verbal Intelligence Quotient (VIQ), a Performance Intelligence Quotient (PIQ), a Full Scale Intelligence Quotient (FSIQ), and a General Language Composite (GLC). The scores vary from 40 to 160, where a higher score corresponds to higher intellectual functioning. The WPPSI-III has demonstrated excellent internal consistency (.86-.97) and test-retest (.84-.92) reliability and validity for children with and without developmental disabilities (Wechsler, 2002).

**Adaptive behaviour.** The Adaptive Behavior Assessment System-II (ABAS-II; Harrison & Oakland, 2003) measures the adaptive behaviour of a person from birth to 89 years old in various spheres of daily life. The tool is used to evaluate three domains recognized by the American Association for Intellectual and Developmental Disabilities (AAIDD; Schalock et al., 2010) as being necessary to assess adaptive behaviours, which are; Conceptual, Social, and Practical, as well as a General Adaptive Composite (GAC). It includes 241 items, with between 22 and 27 items in each domain. In this study, the parent/primary caregiver form (ages 0-5) was used. In order to score an item, the parent or caregiver must assess whether the child currently performs the task independently in daily life on 4-point scale (0 = is not able; to 4 = always or almost always when needed). A higher score on the ABAS-II indicates more adaptive behaviours in the child's repertoire. The internal consistency (Cronbach's alpha of .98 to .99) and the test-retest reliability (correlation of .90), demonstrate the strong reliability of the tool (Harrison & Oakland, 2003). When compared to the Vineland Adaptive Behavior Scale, the correlations between the two tools were relatively high (.70 to .84; Harrison & Oakland, 2003).

## Procedures

**Evaluations.** Following the completion of the consent forms to participate, intellectual functioning evaluations were completed, using the WPPSI-III, by a psychologist or a graduate student in psychology supervised by a psychologist. The ABAS-II was completed by the public service agency's therapists, who were trained

to administer the semi structured interview with each participant's parents. The therapists also administered two CARS tests for each participant: one in a semi-structured interview with parents (interview version), and the other through direct observation (observed version). The latter were completed after seven periods of one hour observation each. The SCBE was completed by each participant's day care educator, under the supervision of the public service agency's therapists. The SCBE was completed during the same time period as the CARS and ABAS-II.

**Statistical analysis.** Initial descriptive analyses examined the means, standard deviations, and ranges to describe participants and their levels of socioaffective competencies in their day care settings. For the second objective, Pearson correlations between the participants' SCBE scores and scores on CARS, WPPSI-III, and ABAS-II were performed to evaluate whether there were relationships between the participants' socioaffective competencies and their severity of autism symptoms, intellectual functioning, and adaptive behaviours. For objective 3, *t*-tests analyses were used to compare the characteristics of the participants who had SCBE scores in the clinical range to those who had scores in the average range.

## Results

### Participants' Clinical Profiles

The participants' scores on the various tests are presented in Table 2. The participants' CARS scores determined through direct observation ( $M = 31.0$ ) were very similar to the scores based on parent interviews ( $M = 30.8$ ). The correlation (Pearson) between the two measures of the CARS was  $r = .78$ ,  $p < .01$ . The range extended from 16.5 to 51.

The participants displayed very diverse scores on the IQ scales. A high standard deviation of 24.2 reflects the wide range of scores of the Full Scale IQ, from 47 to 129. The mean was 75.9. A similar pattern was observed for each of the subscales. The highest average (81.8) was obtained for the Performance IQ scale.

On the general adaptive composite of the ABAS-II, the participants scored an average of 66.9 ( $SD = 14.9$ ), varying between 42 and 130. The highest score was on the Social subtest, where the average was 72.7 ( $SD = 15.5$ ).

### Participants' Socioaffective Competencies

The first objective of the study was to describe the socioaffective competencies of the participants. Table 2 presents the participants' average scores, standard deviations, and ranges on the four domains of the SCBE. The individual scores varied between 30 and 70. The mean scores are in the average range in each domain: Social Competences (43.1;  $SD = 9.1$ ), Internalizing Problems (41.1;  $SD = 8.2$ ), Externalizing Problems (46.5;  $SD = 7.1$ ), and General Adaptation (42.2;  $SD = 8.7$ ). However, for each of these scales, a percentage of the participants scored in the clinical range, corresponding to a socioaffective deficit. Thus, 39 (34%) participants scored as having significant difficulties with Social Competences, 45 (38.7%) with Internalizing Problems, and 19 (12.7%) with Externalizing Problems. In terms of General Adaptation, 40% of the participants had socioaffective problems in the clinical range.

### Relationship Between Participants' Clinical Profiles and Socioaffective Competencies

Pearson correlations between the SCBE measures of General Adaptation and socio-demographic information of the families are presented in Table 3. Among the three domains (Social Competences, Internalizing Problems, Externalizing Problems) and the main scale of the SCBE (General Adaptation), only the Externalizing Problems were significantly related to the family composition ( $r = -.21$ ;  $p < .01$ ) and the family income ( $r = .18$ ;  $p < .05$ ). The parents' levels of education and type of occupation were not significantly related to participant's scores.

The correlational analysis between the SCBE scores and the measures of autism symptoms (CARS), intellectual functioning (WPPSI-III) and the adaptive behaviours (ABAS-II) revealed statistically significant associations (Table 3). Social Competence, Internalizing Problems, and the General Adaptation scale were all significantly related to all measures of intellectual functioning and adaptive behaviours, as well as both CARS scores.

The Externalizing Problems subscale was related to the observed version of the CARS ( $r = -.21$ ;

Table 2. Clinical Profiles of the Participants

	<i>M (SD)</i>	<i>Range</i>
Autistic Symptoms, observed (CARS)	31.0 (8.1)	17–51.5
Autistic Symptoms, interview (CARS)	30.8 (7.6)	16.5–47.5
Verbal IQ (WPPSI-III)	77.8 (23.2)	48–144
Performance IQ (WPPSI-III)	81.8 (22.2)	47–130
General Language Composite (WPPSI-III)	75.6 (20.7)	40–134
Full Scale IQ (WPPSI-III)	75.9 (24.1)	47–129
Conceptual (ABAS-II)	69.8 (15.4)	45–123
Social (ABAS-II)	72.7 (15.5)	48–130
Practical (ABAS-II)	66.8 (13.9)	41–129
General Adaptive Composite (ABAS-II)	66.9 (14.9)	42–130
Social Competence (SCBE)	43.1 (9.1)	30–68
Internalizing Problems (SCBE)	41.1 (8.2)	30–70
Externalizing Problems (SCBE)	46.5 (7.1)	30–67
General Adaptation (SCBE)	42.2 (8.7)	30–68

Table 3. Correlations Between the Participants' Scores on the SCBE and Scores on the CARS, WPPSI-III, and ABAS-II

SCBE	CARS	WPPSI-III					ABAS-II			
		VIQ	PIQ	FSIQ	GLC	Concept	Social	Practical	GAC	
Social Competence	-.52***	-.50***	.43***	.49***	.48***	.42***	.39***	.46***	.35***	.39***
Internalizing Problems	-.46***	-.37***	.22**	.30***	.27***	.23**	.27***	.40***	.29***	.31***
Externalizing Problems	-.21**	n.s.	n.s.	.18*	.17*	n.s.	n.s.	n.s.	n.s.	n.s.
General Adaptation	-.51***	-.46***	.36***	.44***	.42***	.36***	.36***	.43***	.33***	.37***

Note: GLC: Global Language Composite; FSIQ: Full Scale Intellectual Quotient; PIQ: Performance Intellectual Quotient; VIQ: Verbal Intellectual Quotient; SCBE: Social Competence and Behavior Evaluation; CARS: Childhood Autism Rating Scale; WPPSI-III: Wechsler Preschool and Primary Scale of Intelligence-III; ABAS-II: Adaptive Behavior Assessment System-II.

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

$p < .01$ ) and with two of the WPPSI-III subscales: the PIQ ( $r = .18; p < .05$ ) and FSIQ ( $r = .17; p < .05$ ). The participants' Externalizing Problems were not related to any of the other measures.

### Comparisons Between Participants in the Average and Clinical Ranges

In order to observe how the participants in the average range differed from those within the clinical range (objective 3), two groups were formed based on the results of the SCBE's General Adaptation scale. The first group was composed of 60 participants (40%) who had scores within the clinical range, who demonstrated higher levels of behaviour problems or less social competence. The second group included 90 participants (60%) who had scores in the average range, who demonstrated fewer (or less severe) behavioural

problems and more social competence. The average scores on the autism symptoms, intellectual functioning, and adaptive behaviour scales were then compared as a function of the participants' group membership.

Participants within the average range were significantly different from the participants in the clinical range (Table 4). The former had significantly milder autism symptoms, as observed by their therapists and reported by their parents, higher levels of intellectual functioning, and significantly higher adaptive behaviour. These results highlight the fact that 34% of children scored in a clinical range for Social Competencies, close to 40% had Internalizing Problems and close to 13% had Externalizing Problems. No significant difference was found as a function of the participants' ages.

Table 4. Means, Standard Deviations and Differences Between the Two Groups of Participants, based on their Profile of General Adaptation

General adaptation profile	Average range (n=90)		Clinical range (n=60)		Difference between groups
	M	(SD)	M	(SD)	
Social Competence (SCBE)	49.0	(6.5)	34.4	(3.8)	$t(146.0) = -17.3^{***}$
Internalizing Problems (SCBE)	45.4	(7.5)	34.6	(4.0)	$t(142.0) = -11.4^{***}$
Externalizing Problems (SCBE)	49.1	(6.8)	42.6	(5.7)	$t(140.0) = -6.4^{***}$
Autistic Symptoms, observed (CARS)	28.2	(6.7)	35.2	(8.3)	$t(108.8) = 5.4^{***}$
Autistic Symptoms, interview (CARS)	28.3	(6.7)	34.4	(7.5)	$t(141.0) = 5.1^{***}$
Full Scale IQ (WPPSI)	82.4	(24.1)	65.9	(20.8)	$t(147.0) = -4.3^{***}$
Verbal IQ (WPPSI)	83.9	(23.3)	68.7	(20.0)	$t(148.0) = -4.1^{***}$
Performance IQ (WPPSI)	87.8	(21.5)	72.9	(20.3)	$t(148.0) = -4.3^{***}$
General Language Composite (WPPSI)	80.5	(20.3)	67.0	(19.1)	$t(145.0) = -3.8^{***}$
General Adaptive Composite (ABAS-II)	70.5	(14.4)	61.2	(14.0)	$t(147.0) = -3.9^{***}$
Conceptual (ABAS-II)	73.8	(15.0)	63.7	(14.0)	$t(147.0) = -4.1^{***}$
Social (ABAS-II)	77.1	(14.0)	65.8	(15.2)	$t(147.0) = -4.6^{***}$
Practical (ABAS-II)	70.0	(13.9)	62.1	(12.6)	$t(147.0) = -3.5^{***}$
Age of participant	3.9	(0.6)	3.9	(0.6)	n.s.

Note: SCBE: Social Competence and Behavior Evaluation; CARS: Childhood Autism Rating Scale; WPPSI-III: Wechsler Preschool and Primary Scale of Intelligence-III; ABAS-II: Adaptive Behavior Assessment System-II.

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

## Discussion

The inclusion of children with ASD in regular life environments is recognized as a practice that results in positive consequences for both the children with ASD and the typically developing children of a group (Ferraioli & Harris, 2011). Yet children with ASD present a range of social, emotional, and behavioural deficits that can affect the quality of their inclusion (Terpstra & Tamura, 2008). While social, internalizing, and externalizing problems have been respectively explored in different studies on children with ASD, the three domains taken together via the concept of socioaffective competencies has not been widely researched. There is little information about the socioaffective competencies of children with ASD in natural day care settings. Likewise, few data are available on educators' perceptions of the social, affective, and behavioural competencies of children with ASD in inclusive day cares, which is one of the variables that can play a significant role in the quality of inclusion (Odom & Diamond, 1998).

The present study describes the socioaffective competencies of a large group of children with ASD in inclusive preschool settings, before receiving any type of early intervention. It is one of the first to use a multidimensional measure to evaluate educators' perceptions of the socioaffective competencies of children with ASD in regular preschool programs with their peers. A first observation of this study concerns the large heterogeneity of children in day cares in terms of their autism symptoms, intellectual development, and adaptive behaviour. This heterogeneity is already acknowledged in specialized literature, but this study is a reminder that the question of socioaffective competencies of children with ASD in early childhood settings can only be approached by taking into account the wide diversity of clinical profiles in the process of inclusion.

From a descriptive point of view, more than half of all participants had good overall adjustment (60%) and social competencies (66%). Several hypotheses arise that could explain these results. It is possible that some of the participants in our sample ( $M = 3.92$  years), given their young age, did not yet present with problems. It is also possible that the educators were more lenient in scoring problem behaviour, due to the

young age of the children. In this sense, a recent study on the perception of educators, professionals, and managers from service agencies on the needs and challenges associated with problem behaviours in children with ASD showed that there is little recognition of problem behaviours in infancy (Rivard, Dionne, & Morin, 2012; Rivard, Dionne, Morin, & Gagnon, 2013; Rivard, Morin, Dionne, & Gagnon, submitted). This recognition occurs only later, at school entry, for example, when the child is heavier and stronger and when these behaviors are more difficult to manage. These hypotheses are in line with previous observations that inclusion can prove to be increasingly difficult as a child gets older, pointing out the critical phases of transition (preschool, primary school and high school), when behaviours are more and more governed by norms and tolerance for deviance from the norm is reduced.

The majority of participants displayed few or no internalizing or externalizing problems (respectively 61 % and 87 %). Jang et al. (2011) reported that 94% of the children with ASD in their study ( $M = 7.9$  years old) presented at least one form of problem behaviour, meaning that only 6% had no problem behaviours. While presenting one form of problem behaviour does not necessarily result in scoring within a clinical range or meeting criteria for a diagnostic of problem behaviours, there is a large discrepancy between our data and the estimated prevalence of problem behaviours in children with ASD. Again, age of the sample could be a partial explanation of our data. Another possible explanation is that the subscale of externalizing behaviors used in the current study is designed to highlight the behavioural problems of typically developing children, and perhaps is not sensitive enough to capture certain behaviours that are more problematic with a population of children with ASD, such as self-injurious, self-stimulatory behaviours, stereotypy, and rigid and inflexible behaviours. Externalizing behaviours of children with ASD can be very specific and not fully evaluated by the main measure. Some authors highlighted that few tools are available for screening and assessing problem behaviors in children with intellectual disability or ASDs (Dekker, Nunn, & Koot, 2002; Matson et al., 2008; Mahan & Matson, 2011). Problem behaviours, depending on intellectual functioning, might be expressed and perceived



differently. Therefore, tests developed for children with a typical development should be interpreted with caution especially for problem behaviours (Aman, Tassé, Rojahn, & Hammer, 1996; Dekker & al., 2002; Farmer & Aman, 2010). In the current study, Externalizing Problems, as measured by SCBE, were related to the therapist evaluation of autism symptoms and to global level of intellectual functioning. Future studies should compare results with a measure of problem behaviours specific to children with ASD. More research is needed to better understand externalizing behaviour of children with ASD and the impact of those behaviours on preschoolers' inclusion.

Correlational analyses between the participants' characteristics and the results of the socioaffective competencies scale revealed some relationships that can provide us with more details regarding the strengths of some participants and the challenges of others. Social competence, internalizing problems, and general adaptation were correlated with severity of autism symptoms, intellectual functioning, and adaptive behaviour. Participants who had more socioaffective competencies were also the ones who had less severe autism symptoms, higher intellectual functioning, and more adaptive behaviours in everyday life. The results of the current study contribute to support this assumption in showing that the strength of relationships between level of functioning on standardized tests and educator ratings on socioaffective competencies in daycare are quite strong. These results highlight the importance of screening children who function at lower levels for internalizing and externalizing problems, particularly during their inclusion in day care settings. In the present sample, many of those participants were low functioning and had poor competencies in communicating their emotions and needs. Though internalizing problems are often less observable and less disturbing than externalizing problems, it is important to increase day care and preschool educators' sensitivity so that they can be more aware of the symptoms that have a crucial impact on the socioaffective adaptation of children.

This study presents certain limitations. Due to the objective of the study, the focus was on individual characteristics that can influence socioaffective competencies. Future studies should take into account environmental variables that

can have an impact on children's adaptation in inclusive settings. For example, some participants may have been placed with same aged peers, while others could have been placed with peers of varying ages, which could have influenced their social competencies or even the socioaffective rating of the educators. A study on the different environmental variables (e.g., quality of the regular day care program) that may affect socioaffective competencies is in progress by the same authors. Also, the sample of educators was relatively homogeneous, principally composed of young women. Other informative variables related to the day care educator, such as years of experience, age, or gender, were not included and could be taken into account in future research. Finally, there was no inter-rater reliability data on the SCBE collected in the present study because the day care educators were the only adults to observe the participants within their day care groups.

The increase in the prevalence of ASD and the improvement of services offered in early childhood have led to an increase in the number of mainstream day care and preschool settings that include young children with ASD with typically developing children. Results of this study highlight the fact that a non-negligible proportion of children with ASD are perceived to have a good level of adaptation, such that their day care educators rated them within normative levels. For those children, specific intervention should aim to ensure that no deviation from the norm occurs in the development of the child during subsequent steps of their social and school inclusion. For children with more severe profiles, group intervention could aim to improve sensitivity, positive social relationships between the child with ASD and peers, and the acquisition of personal and social skills. In regard to all children on the autism spectrum, inclusion in day care settings is a learning opportunity for all children, but represents only the first integration experience in regular environments. Efforts must be made during all phases of transition and inclusion, such as in the transition from child care to primary school settings and from primary to high school. Successful inclusion must consider the child's strengths and deficits in order to support the child's needs and to ensure the highest possible level of socioaffective competency is reached for these children.

## Key Messages From This Article

**People with disabilities:** Many children with ASD have strengths and assets in terms of social competence and behaviour abilities, just like other children. This can help lead to successful inclusion.

**Professionals:** Results of this study highlight the importance of informing educators of both internalizing and externalizing behaviours, which could be underestimated by the inclusion settings, yet could influence the quality of the social adaptation with typical peers.

**Policymakers:** More than half of children with ASD are perceived by their educators as being socially adapted in their regular daycare group, reinforcing policies on integration in regular day care settings. For children with a more complex profile, additional support resources must be implemented in order to maximize their social adaptation.

## Acknowledgements

We would like to acknowledge the financial support that we received during this research project. This project is part of a larger research project on the evaluation of early public services in ASD, financed by the Montérégie Health Agency and the Quebec Ministry of Health and Social Services. We want to thank the Centre de réadaptation Montérégie-Est, Mme. Sylvie Gladu, M. Gilles Lemaire, Mme. Annick LeBeau, Mme. Caroline Bouffard and Mme. Johanne Messier. We extend our gratitude to the children, parents, educators and therapists who participated in this study. We also want to thank Mme. Gisela Regli, Mme. Kelly Kerr and M. Thiago Lopes for their help in the revision of the article.

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