Challenging Social Situations for Students with Autism Spectrum Disorder Integrated Into Mainstream Classrooms in Quebec: The Specialists' Perspective

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Abstract

Social communication deficits are underlined as the most salient symptoms of autism spectrum disorder (ASD) in the DSM-5. Although there is some information from the educational sector about how students with ASD who have been integrated into mainstream classrooms are coping with challenging social situations, there is a lack of information from ASD specialists about this important issue, especially in the Quebec school system. To address this gap in knowledge, 34 ASD specialists answered an online questionnaire regarding their perception of such students who were aged 8 to 13 years old. They described the challenging social situations these students face, the personal and environmental characteristics that facilitate their social integration, and the strategies used in school to prevent the occurrence of challenging social situations, including the use of new technologies. Data were analyzed with the continuous thematization method. Participants indicated that understanding and abiding to social rules was the most challenging social situation experienced by students with ASD. Flexibility and open-mindedness of the school were the most reported personal and environmental characteristics required to facilitate integration and child specific interventions were the most common strategies. The strategies to reduce challenging social situations are centred on the student—eclectic and of varied levels of efficiency. Participants were generally favourable to the use of technology in teaching social communication skills to students with ASD. In Quebec, the structure of services given to students with ASD places ASD specialists in key positions to increase collaboration

between students, parents, educators and governmental services. The present findings underline the unique perspective of such specialists and the potential of their key positions in this regard. and the factors that relate to social validity.

Introduction

When starting school, students are faced with numerous challenges such as adapting to a novel environment, learning and abiding to a specific code of conduct, completing school work, fulfilling their parents' expectations, and socializing with peers (Harper, 2016). For a student with a diagnosis of autism spectrum disorder (ASD), these challenges can be amplified by the nature of their condition which includes social communication deficits (Denkyirah & Agbeke, 2010; Forest, Horner, Lewis-Palmer, & Todd, 2004). Incidentally, social communication skills are a key element to a successful integration in school and overcoming the aforementioned challenges (Lane, Givner, Pierson, 2004; Locke, Williams, Shih, & Kasari, 2017).
Despite the fact that numerous, empirically supported, school-based interventions have shown social skills gains for students with ASD and despite the well accepted notion in both scientific and educational communities that social communication skills programs are essential to the development of these students, these interventions are rarely implemented in the school environment (Kasari & Smith, 2013). In Quebec, the Canadian province where the current study was conducted, several obstacles impede the implementation of empirically supported social skills programs for students with ASD. These include the difficult knowledge transfer from research to governmental agencies and school boards, the lack of an official educative program for students with ASD, the lack of practice guidelines for teachers of students with ASD integrated in mainstream classrooms, the change in educational orientation following provincial government change, and the lack of financial and specialized human resources in Quebec schools (Ministère de l'Éducation du Loisir et des Sports, 2011; Ministère de la Santé et des Services sociaux, 2017; Poirier, Paquet, Giroux, & Forget, 2005; Ruel, Poirier, & Japel, 2014).
The current portrait of the challenges faced by students with ASD in mainstream classrooms was established thanks to research reporting parents, teacher, and educators' observations and opinions (Able, Sreckovic, Schultz, Garwood, & Sherman, 2015; Giangreco, 2013; Lane et al., 2004; Paquet, Forget, & Giroux, 2009; Protecteur du citoyen, 2012; Ruel et al., 2014). There is a lack of information from ASD specialists regarding the social communication challenges faced by students with ASD, especially in the Quebec school system. In order to address this gap in knowledge, the present study investigated the observations and opinions of professionals who intervene with students with ASD in the school environment. In the current study, specialists who work with students with ASD were invited to give their opinions on the challenging social situations faced by these students integrated into mainstream classrooms, on the environmental and personal characteristics that facilitate their social integration, and on the strategies used to prevent and eliminate the occurrence of these challenging situations. Social communication deficit is characterized by persistent difficulties in using verbal and non-verbal communication appropriately in a social context (e.g., adapting one's verbal and non-verbal behaviours to conversational cues) which leads to functional limitations that can have negative impacts on children's well-being, social relations, scholastic performance, and mental health (Burke, Woszidlo, & Segrin, 2012; Odom et al., 2006; Rivard, Dionne, Morin, & Gagnon, 2013; Rivard, Parent-Boursier, Terroux, & Mercier, 2014; Segrin, & Flora, 2000; Walton & Ingersoll, 2012;

Webster-Stratton, Reid, & Hammond, 2001). Social skills are critical to a successful social, emotional and cognitive development (Bellini, Peters, Benner, & Hopf, 2007; Lane et al., 2004; Schwartz, Staub, Peck, & Gallucci, 2006); therefore social skills programming should be incorporated into educational plans for students with ASD where the development of these skills would be most efficient.

According to Noiseux (2014), in Quebec, 20% of special needs students have a diagnosis of ASD, making up the largest subgroup among students with special needs. This author indicates that there are six times more students with ASD than students with intellectual disability in the mainstream school system, with an annual 24% increase in the prevalence of the number of students with ASD. The group of students with ASD may include students with ASD and intellectual disability. This group does not include students with ASD and a comorbid diagnosis that may be included within a different group, such as students diagnosed with ASD and attention deficit disorder or students diagnosed with ASD and severe conduct disorder. Noiseux explains that the prevalence of students with ASD may be underestimated as it relies on reports from the Quebec Ministry of Education. Despite these high numbers, studies on Quebec families have revealed that parents of students with ASD deplore the lack of support to facilitate the social and scholastic integration of their children who are often without specialized services during the school year and criticize their lack of access to specialists and adequate training offered to school staff (Paquet et al., 2009; Protecteur du citoyen, 2009). Ruel et al. (2014) indicated that teachers perceive that they are not provided with a uniform guideline based on best practice to facilitate the integration of students with ASD in mainstream classrooms despite the fact that scholastic success is partly dependent on teacher interventions. Instead, teachers define their own roles and create their own tools using their individual ideal of what a successful social integration should be.

Although social communication deficits are considered the main characteristic in children with ASD (American Psychiatric Association; APA, 2013), they remain the least treated symptom, the most refractory to treatment and, when acquired, the most difficult to generalize to different settings (Kelley, Naigles, & Fein, 2010; Paquet, Clément, & Magerotte, 2012; Rivard et al., 2016). School-based social skills interventions dedicated to the social integration of students with ASD in mainstream classrooms have been found to be minimally effective (Stichter, Riley-Tillman, & Jimerson, 2016) or not well documented (Marsh, Spagnol, Grove, & Eapen, 2017). There are no clear guidelines as to what interventions should be recommended to teach social communication skills at school, hence the abundance of eclectic interventions (Grynszpan, Weiss, Perez-Diaz, & Gal, 2014; Matson, Matson, & Rivet, 2007; McConnell, 2002; Rogers, 2000).

In summary, there is a rising number of students with ASD in mainstream classrooms with the social communication deficits that characterize the nature of their diagnosis and impede their social integration and scholastic success. It is essential that interventions provided to these students target the development of social communication skills. However, studies have shown that interventions for students with ASD integrated in mainstream classrooms seldom target social communication skills and are often criticized. Specialists dispensing these interventions are in a privileged position to observe the challenging situations these students face. The present study, which seeks information from ASD specialists, adds to a body of previously published studies that have examined the opinions of teachers, teachers' assistants, and specialized educators regarding the inclusion of students with ASD in mainstream classrooms (Able et al., 2015; Giangreco, 2013; Lane et al., 2004; Paquet et al., 2009; Ruel et al., 2014).

Objectives

The main purpose of this research is to investigate the challenging social situations experienced by students with ASD, as perceived by specialists who have experience integrating them in mainstream classrooms. The present article describes the findings of three specific objectives: 1) the challenging social situations experienced by students with ASD integrated in mainstream classrooms; 2) the personal and environmental characteristics influencing the social integration of students with ASD in mainstream classrooms; and, 3) the strategies used in mainstream classrooms to facilitate the integration of students with ASD and reducing problematic social situations. This third specific objective also documents the perceptions of specialists regarding the use of technology as a potential learning tool in school settings.

Materials and Methods

Procedure
The study was evaluated and approved by the Joint Research Ethics Board of Quebec's Rehabilitation Centers and the ethics committee of student research of the University of Quebec in Montreal (CERPE, Comité d'éthique de la recherche pour les projets étudiants de l'UQAM). The following mental health institutions and associations of professionals working with children with ASD were invited to solicit the assistance of their members to participate in this study: the Order of Psychoeducators of Quebec, the Quebec Association for School Psychologists, the Montreal Readaptation Center, and the West Montreal Readaptation Center. The present results include the surveys completed between November 2015 and December 2016.

Participants
The sociodemographic data collected from the participants can be found in Table 1.

Instruments
Data were collected via an online, semi-structured questionnaire developed on the basis of scientific literature pertaining to the integration of students with ASD in mainstream classrooms (Paquet et al., 2012; Rivard et al., 2013; Ruel et al., 2014). The first section was composed of sociodemographic questions designed to establish a portrait of the respondents' years of experience and formal training. The second section included questions regarding the description of problematic social situations as per the definition of social communication described by the APA (2013) and experienced by students with ASD. The third section enquired about the factors facilitating the integration of children with ASD in school settings. The fourth included questions on the interventions that reduce problematic social situations of students with ASD in school settings as well as questions regarding their opinions on the use of tablet apps as potential tools to facilitate social integration.
A preliminary version of the questionnaire was examined and pretested by seven specialists working in the field of ASD (four psychologists who also worked as university professors, a teacher, and two psychoeducators). They evaluated the questionnaire independently. Their inputs were carefully considered and used to modify the questionnaire to its final versions. The questionnaire was uploaded online to the SurveyMonkey.com server in French and English.

Participation was anonymous, untraceable and took a minimum of 30 minutes to complete. The researcher only received the questionnaires when the participant clicked on the *complete* button.

Table 1.
Characteristics of Participating Specialists

Characteristics		n	Percentage
Age of specialists (years) (n = 33)	25-30	1	16.1
	31-40	13	41.9
	41-50	12	38.7
	51-60	5	16.1
Highest level of completed education (n = 34)	College (cegep)*	1	2.9
	Bachelor's degree	11	32.4
	Postgraduate degree	22	64.7
Specialty (n = 34)	Psychology or related field	34	100
Years of experience in ASD (n = 34)	Less than 5 years	3	8.8
	5-10 years	15	44.1
	11-20 years	13	38.2
	21-30 years	1	2.9
	More than 31 years	1	2.9
Numbers of years in current position (n = 34)	Less than 5 years	7	21.2
	5-10 year	15	44.1
	11-20 years	8	23.5
	21-30	2	5.9
	More than 31	1	2.9
Environment worked in (n = 34)	Regular school/class	24	70.9
	Specialized classroom	25	73.5
	Specialized school	14	41.1
	Rehabilitation centre	22	64.7
Previous work experience (n = 34)	Psychologist	13	38.2
	Psychoeducators and behaviourists	13	38.2
	Educators	15	44.1
Current position (n = 34)	Psychologist	13	38.2

Psychoeducator	9	26.5
Educator	12	35.3

*Cegep: pre-university and technical college in Quebec's educational program.

Data analysis
The quantitative data were transcribed, and codes were attributed to each answer. All answers were quantified to establish averages and standard deviations and for data analysis. The qualitative data were analyzed following continuous thematization described by Deschamps (1993), and later by Miles and Huberman (2003) and Paillé and Mucchielli (2016). In this method, the researcher attributes themes to a group of meaningful units of text and simultaneously constructs a thematic grid with the themes contained in the text, which are classified according to a systematized and structured hierarchy. First, all answers given for a question are read to establish common trends. Second, the transcription is processed as meaningful units. One meaningful unit is one idea. Recurrent themes are usually central ones that can be expressed in percentages and calculated on the basis of the total number of respondents for each question. For example, if 31 participants out of 34 answer a question, the percentage for each theme is calculated as though the 31 answers correspond to 100% of the answers. Third, the meaningful units are compared and organized under common themes. The themes transform accounts of personal experiences of the specialists into structured information. Recurrent key words are used as theme titles.

In this study, the specific literature on the subject was used when constructing the themes (Matson et al., 2007; McConnell, 2002; Rogers, 2000). Themes were also compared to one another to investigate whether the meaningful units could all be included in larger and more comprehensive themes. As per Deschamps (1993), this construction of the main grid followed a collaborative process among the researchers whereby new and pertinent themes were collectively agreed upon and incorporated in the main grid. Last, the researcher organized the themes into a grid or a tree that conveyed a coherent message. The content of the grid answered the research questions. The most recurrent themes were considered the most important ones; thus, they appear higher in the grids.

Results

The results section indicates the three most common answers given for each question. All the themes that emerged can be found in the grids by order of recurrence (Tables 2, 3 and 4).

Challenging Social Situations
The participants were asked to describe common socially challenging situations faced by children with ASD, integrated in mainstream classrooms. Thirty-one participants answered this question ($n = 31$). Nine recurrent themes emerged and can be found in Table 2. The following themes are the three most commonly reported: understanding and abiding to social rules, rejection, and isolation. For the first theme, understanding and abiding to social rules ($n = 24$, 77.4%), participants highlighted the difficulty for students with ASD to read one another's

social conduct and to behave as expected when faced with social rules. One participant mentioned "the difficulty to understand the expectations of living as part of a group, turn taking, sharing material and space." The theme of rejection covers all the meaningful units that describe how students with ASD are mocked by peers and intentionally not integrated in social activities by peers. Participants ($n = 13$, 41.9%) reported several accounts of students with ASD being victim of bullying. One participant wrote: "[...] intimidation in class (peers laugh at him and imitate his mannerism)." The third challenging situation reported by 35.5% ($n = 11$) of the participants is isolation. Participants explained that they had observed students with ASD alone: voluntarily because they avoid social contacts or involuntarily because they lacked the social skills to initiate and maintain friendships. Participants explained this situation in these words: "lonely, isolated during recess."

Participants were asked to describe the location where these situations most likely occurred. The 30 participants who answered this question indicated that the school yard ($n = 24$, 8.0%), the classroom ($n = 22$, 73.3%), and the school transition spaces ($n = 14$, 46.7%) are the locations where challenging social situations are most likely to occur. Participants mentioned "the classroom," the "school playground," the "hallway," and the "gym."

Table 2.
Challenging Situations

Challenging situations		n	Percentage
Understanding and abiding to social rules	Student has difficulty understanding and reacting as expected when faced with social rules and action of others	24	77.4
Rejection	Student is mocked, intimidated or ignored by peers	13	41.9
Isolation	Student is alone, voluntarily or not	11	35.5
Aggression	Student displays aggressive behaviour toward himself or others	9	29.0
Emotions	Student is unable to read others' emotions and express his own	8	25.8
Social communication	Student has deficits in social communication skills as previously defined	4	12.9
Sensory	Student inappropriately expresses his sensory needs, self-stimulated inadequately	4	12.9
Understanding a task	Student has difficulty understanding and abiding to school expectations	4	12.9
Underestimated	Student's abilities are underestimated by the school staff	2	6.5

Personal and Environmental Characteristics
Participants were asked to describe the personal characteristics that can facilitate the social interaction of students with ASD in mainstream classrooms. Ten themes emerged from the answers of the 23 participants who responded to this question and can be found in Table 3. The

three most reported characteristics are flexibility, motivation, and cognitive skills. For flexibility, participants ($n = 15$, 65.2%) reported that students with ASD exhibited difficulties adapting to different situations because they have psychological and/or behavioural rigidities. A participant explained that a student had difficulties completing scholastic tasks in these terms: "a student accepting adult intervention despite his cognitive rigidity." Motivation referred to the student's level of interest and eagerness to participate in school activities and was reported as problematic for students with ASD. Participants ($n = 14$, 60.5%) mentioned the desire to be in school and to participate in school life as an important cornerstone in successfully integrating in school. A participant wrote: "an interest in interacting with peers, an interest in knowledge, being receptive to the support offered by adults." Cognitive skills ($n = 10$, 43.5%) referred to intellectual abilities. Students with ASD were reported to have difficulty using their intellectual potential, an element that according to participants enables learning and achieving scholastic goals. One participant mentioned this characteristic by writing: "a sufficient intellectual potential to ensure learning and understanding social convention, etc. (i.e., no intellectual disability)."

Participants were asked to describe environmental characteristics that facilitate social integration of students with ASD in school. The provided answers ($n = 23$) were analyzed and seven themes emerged. The most commonly mentioned environmental characteristics are open mindedness of school staff with regards to ASD, availability of material resources, and specialized services. Open mindedness of school staff with regards to ASD ($n = 15$, 65.2%), referred to the ability of the school staff to adopt an inclusive attitude toward the students with ASD as well as a positive attitude toward the interventions they require. The participants underlined the school's staff willingness to put measures of inclusion in place as well as their general attitude with regards to the integration of student with ASD in mainstream classrooms. Participants explained this theme as such: "the open mind of the teacher accepting to modify certain elements to help the student with ASD. Example: visual schedule, reinforcement board, moving students in the classroom, added visual support, etc…)." The second most mentioned theme ($n = 13$, 56.5%) is the availability of material resources, the availability of specialized material, and adequate location to intervene. The participants underlined the inadequacy of the environment that does not foster learning and inclusion for children with ASD. One of the responding participants wrote the following quote with respect to this theme: "[…] small classrooms, using electronics like smart boards for interactions help children participate, a place where they can calm down or be alone if need be, visual aids, not noisy." The third most cited environmental characteristic is specialized services where participants ($n = 9$, 39.1%) discussed the limited access to specialized staff from school and/or affiliated governmental agencies. The purpose of their interventions is to facilitate the learning as well as the inclusion of students with ASD in mainstream classrooms. A participant explained the following: "trained school staff, specialized in intervention strategies for students with ASD. Having additional support from a worker (specialized school worker, psychoeducator, ...) to help with social interaction."

Table 3.
Personal and Environmental Characteristics

Personal characteristics	n	Percentage	Environmental characteristics	n	Percentage
Flexibility: the ability to	15	65.2	Open mind of school staff	15	65.2

adapt to different situations mentally and behaviourally			with regards to ASD: the ability of the school staff to adopt an inclusive attitude toward ASD		
Motivation: the student's level of interest and eagerness to participate in activities	14	60.9	Availability of material resources: the availability of specialized material and adequate location to intervene	13	56.5
Cognitive skills: intellectual abilities	10	43.5	Specialized services: the availability of specialized resources from school and readaptation center	9	39.1
Communication skills: the ability to initiate and sustain meaningful interactions	10	43.5	Tailoring the intervention to each child's personal needs: the school staff's desire to individualize the intervention plan and academic program of the student with ASD	8	34.8
Emotional management: the ability to control one's emotional responses	9	39.1	Parent collaboration and understanding: parents' understanding of ASD and their involvement in the treatment	6	26.1
Understanding rules and social norms: the ability to behave according to social standards in a group or community of people	8	34.8	Open mind of peers with regards to ASD: educating and informing the classmates of students of ASD regarding this diagnosis, the students affected by it, and the ways they can have a positive impact on their social integration	4	17.4
Empathy: the ability to understand and share others' feelings	7	30.5	Early diagnosis and intervention	3	13.0
Adequate behaviour: the ability to control one's	5	21.7			

behaviour		
Self-esteem: Sense of self-worth	4	17.4
Knowing one's environment: the ability to know and use the resources available in one's environment and know its limits	2	8.7
Autonomy: independence and self-care	2	8.7

Strategies Used to Facilitate Student's Social Integration

Participants were asked to describe the strategies used in the events they reported as challenging. Thirty-one participants ($n = 31$) answered this question, and five main strategies emerged. All reported strategies can be found in Table 4. The most cited strategies are child specific intervention, environmental modification, and sensitizing peers. Most participants mentioned child specific interventions ($n = 28$, 90.3%), to build skills through specific individual programs such as working on theory of mind and learning about emotions, personal space or reciprocity. Social stories (individualized stories to teach a specific behaviour to a child) were the most commonly mentioned tool for this strategy ($n = 12$, 44.4%). A participant explained these strategies in these words: "learning the following notions: non-verbal communication, listening stance, personal space, reading signs of interest and lack of interest, how to start a conversation." Environmental modification was reported by 38.7% ($n = 10$) of the responding participants. This strategy consists of modifying the student's surroundings to prevent the occurrence of a problem situation. Participants discussed how rearranging the learning setting could improve learning and foster group inclusion. A participant referred to environmental modification as "setting up a room for individual and autonomous work (in the presence of another student with ASD)." The third most commonly cited strategy was peer sensitization ($n = 8$, 25.8%) which referred to informing other students and classmates about the presentation and meaning of ASD, to facilitate acceptance in the group and reduce the occurrence of intimidation. Peer sensitization is defined as informing, sensitizing, and involving peers with regards to students with ASD. A participant mentioned "sensitization to the ASD diagnosis in class."

Participants were asked if the current strategies were sufficient in facilitating the development of social communication skills. Twice as many participants responded a definite no ($n = 4$, 22.2%), compared to a definite yes ($n = 2$, 11.1%). A larger group of participants ($n = 7$, 38.9%) underlined the need for individualized intervention plans tailored to the child's needs. A second group ($n = 5$, 27.8%) explained that the current strategies made it hard for the students to transfer learned skills to the classroom. The other two themes that equally emerged ($n = 4$, 22.2%), were that teaching these skills necessitated access to a specialized worker and that greater human and

material resources were required. One participant mentioned the following: "The schools simply don't have enough trained staff to give them what they would need to be completely successful. It also takes someone to put these things into place, monitor them and change as needed since no two autistic kids are exact (the same) and they can change."

Participants ($n = 23$) made recommendations to improve learning social communication skills. All participants recommended increasing specialized individual intervention ($n = 23$, 100%). One group ($n = 7$, 30.4%) suggested that staff training include strategies to teach social communication skills and another group of participants ($n = 5$, 21.7%) recommended peer education and involvement.

Table 4.
Strategies to Reduce Social Communication Challenges

Reported strategies	n	Percentage
Child specific intervention: skill building and through specific individual programs such as theory of mind, emotions and personal space reciprocity and social scenarios	28	90.3
Environmental modification: consists in modifying the student's surroundings to prevent the occurrence of a problem situation.	10	38.7
Peers sensitization: informing, sensitizing and involving peers with regards to students with ASD	8	25.8
Social skills group: teaching social communication skills through group work with peers or students with and without ASD	4	12.9
School staff intervention: strategies targeting school staff while informing, sensitizing and involving them with regards to students with ASD	4	12.9

Technology and Social Communication

Participants answered questions regarding the use of technology as a potential teaching tool in the context of school. Eighteen specialists ($n = 18$, 69.2%) reported that they had not used a tablet as a teaching tool in their work. However, most specialists who answered this question claimed being favourable to this idea ($n = 22$, 81.5%). Another group ($n = 9$, 33.3%) expressed curiosity and interest in the use of a tablet for educational purposes and the same proportion claimed to be favourable to the use of a tablet in the context of intervention for students with ASD. Participants wrote the following: "It's a motivating tool that allows the child to learn while having fun." Last, a small portion of responding participants ($n = 4$, 14.8%) indicated that they would require more information on the use of tablets in the context of education and that they were concerned about the students' ability to distinguish between the use of the tablet for education versus leisure.

Participants were asked their opinions regarding use of the tablet to teach social communication skills. Most of the participants claimed to be in favour ($n = 13$, 59.1%) and a minority ($n = 5$, 22.7%) also indicated that they thought the tablet to be more attractive to children with ASD than traditional strategies. One participant mentioned: "Children with ASD are enthused by technology. Therefore, I believe that technology should be used as all children with ASD in my caseload have a restricted [obsessive] interest in their iPad or their computer." A portion expressed concerns regarding the importance of knowledge transfer from the tablet to real life situations ($n = 3$, 13.6%). One participant wrote: "(…) they [the tablets] are beneficial to learn

the theory of the 'how', but [not] hands on practice (the implementation) of the learned skills." A small number of participants ($n = 2$, 9.1%) mentioned that there is a lack of information on the type of educational programs that exists for tablets and that use of the tablet on its own is not sufficient for teaching social communication skills. A participant claimed: "I believe it can be helpful, but it should not replace actually participating in social skills groups with peers for real life experience." Finally, the same proportion ($n = 2$, 9.1%) indicated that they could not offer their opinion on the use of tablets to teach social communication as they never used them in the context of their educative work.

Discussion

Social integration is a key factor in scholastic success. Consequently, the success of students with ASD, enrolled in mainstream classrooms, is jeopardized by the social communication deficits that characterize their diagnosis (Bellini et al., 2007). Stichter, Randolph, Gage and Schmidt (2007) have indicated that improving social communication skills should be made the focus of interventions for children with ASD given their impact on the lives of these individuals. There are two avenues that applied research could focus on with regards to improving social communion skills of students with ASD: prevention and intervention. With regards to prevention, establishing a portrait of the most common challenging social situations faced by students with ASD will enable specialists to develop programs that target the social communications skills required to facilitate their successful inclusion in mainstream classrooms. It is recommended that such programs not be applied at the onset of challenging behaviours but rather at the onset of school years as preventive measures. The purpose of this study was to describe these challenging social situations experienced by students with ASD, who attend mainstream classrooms from the perspective of the specialists who participate in their integration. ASD specialists are often at the forefront of services provided to students with ASD in Quebec, given their specialized training as well as their knowledge about other barriers to services previously mentioned. In the specific structure of services provided in Quebec, these specialists can come from governmental agencies, school boards or even the private sector. The present study underlines that their key positions as liaisons between students, parents, educators and governmental services gives them a unique vantage point on the situation and the potential to increase collaboration between all actors to improve the social communication gains of students with ASD.

As for intervention, programs and their goals must be selected based upon a comprehensive assessment of an individual's needs, in accordance with best practices. Thus, assessing a student's social communication skills prior to recommending an appropriate intervention is essential (Matson et al., 2007). Bellini and colleagues (2007) have advocated for matching the remediation strategy with the exhibited skill deficit to improve the chances of success of a social integration intervention.

When describing the challenging social situations experienced by students with ASD who attend mainstream classrooms, specialists most commonly reported understanding and abiding to social rules, rejection, and isolation. These themes can be found in the previously mentioned literature. Harper (2016), discussed how in mainstream school environments, students cope with peer, teacher, and social demands. Social communication skills enable students to understand these demands and adjust their behaviour accordingly (Lane et al., 2004). However, for students who

lack these skills, school readiness prevention programs are necessary to guide their behaviours and facilitate their integration. Peer-mediated interventions, as described in Odom and colleagues (2006) and Schwartz and colleagues (2006), have the advantage of facilitating inclusion through modelling desired behaviours, creating and reinforcing friendships, and protecting from rejection and isolation.

Results also suggest that the same challenging situations can and do occur in all school locations. Interventions should therefore be generally applicable and not exclusive to a specific location. Nevertheless, participants have cited the lack of material resources, including appropriate physical environments, as a factor in deficient school integration.

When describing the personal characteristics influencing the social integration of students with ASD in mainstream classrooms, the participating specialists most commonly reported flexibility, motivation, and cognitive skills. Individuals with ASD have a documented deficit in executive functions (Tarbox & Persicke, 2014)—namely, a set of cognitive processes that are involved in self-control, goal-oriented behaviour, and are a factor in scholastic success. Flexibility is one of the main components of executive functions. Although flexibility can be taught to children with ASD, there is a lack of effective interventions targeting this skill (Vries, Prins, Schmand, & Geurts, 2015). Chevallier, Kohls, Troiani, Brodkin and Schultz (2012) claimed that ASD could be understood as an extreme case of diminished social motivation. The ability to appear engaged in a social event, such as exterior signs of motivation and interests, through eye contact, joint attention or appropriate affect, can contribute to acceptance in a group, thus facilitating social integration. Thus, when programming for inclusion, specialists and decision takers must plan for interventions that promote the development of social communication skills through engaging activities. Finally, according to participants, students who present with a better cognitive level are better equipped at following the scholastic curriculum and at integrating among peers. This result underlines the important of early intervention for children with ASD, one of its main goals being the improvement of these individual's cognitive skills before the onset of school (Rogers & Vismara, 2008). However, Tough (2012) has supported a different view, demonstrating that intelligence is only one of the many factors that lead to school success and not the most important one. This author names perseverance, curiosity, and grit as factors that carry more weight towards school success in typically developing students.

The most commonly reported environmental characteristics were open mindedness of school staff, availability of material resources, and availability of specialized human services. Able and colleagues (2015), have underlined the fact that although supportive views for inclusion are beneficial to students with ASD integrated in mainstream classrooms, the reality of the educational world is that lack of knowledge regarding the diagnosis and systemic pressure on teachers to perform, have negatively impacted the general attitude toward inclusive processes. The perceived resistance to inclusion of students with ASD could be linked to the lack of material resources and specialized human services which were both reported by the specialists, who underlined a lack of tools deemed necessary for the integration and scholastic success of students with ASD. This lack of resources has been documented in the scientific literature (Protecteur du citoyen, 2009, 2012; Siklos & Kern, 2006).

The third objective documented the strategies used by specialists to reduce challenging situations. Social stories were the most commonly cited tool in child specific interventions, yet a meta-analysis by Kokina and Kern (2010) concluded that social stories had low to questionable effectiveness. Environmental modification was the second most mentioned strategy which is consistent with antecedent-based interventions as per best practices in ASD (Wong et. al., 2015).

Matson and colleagues (2007) have mentioned peer-mediated interventions among the common strategies to teach social skills. The strategies reported are centred on the student—eclectic and having varied levels of efficiency—stressing the importance of creating and implementing a guideline of preventive programs to facilitate the inclusion of students with ASD. Most of the participants indicated that they had never used this strategy when intervening, They also reported being favourable to this idea and that they viewed the tablets as user-friendly tools for children with ASD.

Limitations

One of the limitations of this study is the small sample size of participants and the restricted types of specialists' professions. The opinions of professionals from other domains such as speech and language pathology or occupational therapy would have added depth to the collected data. Documenting the opinions of students with ASD who were integrated in mainstream classrooms as to what the most challenging social situations they face at school is an important aspect of research on this topic. The data collection method also has a potential limitation; individual interviews might have sought longer and deeper answers. However, the choice of our data collection instrument allowed participants from different geographical locations to be included.

Conclusion

Social integration is a key factor in scholastic success. Consequently, the success of students with ASD, enrolled in mainstream classrooms, is jeopardized by the social communication deficits that characterize their diagnosis (Bellini et al., 2007). Results of the present study highlight the importance of developing a guideline of intervention to improve social communication skills based on most commonly reported challenging situations and their matching strategies. Such a guideline would be useful for specialists and school staff alike in preparing students with ASD for integration into mainstream classrooms as well as for intervention following integration.

Key Messages From This Article

People with disabilities. People with autism spectrum disorder face difficult social situations and a hard time integrating into ordinary school. They should receive help to integrate at school from the start of school and the help they are receiving should consider the situations that are the hardest for them.
Professionals. Interventions that facilitate the social integration of students with ASD in mainstream classroom should be based on a uniform guideline and be offered to all students with ASD at the onset of school years. These interventions should consider the most commonly reported socially problematic situations described in this article.
Policymakers: Developing a uniform guideline of inclusion for all students with ASD across all schools is imperative. The interventions featured in this guideline should be dispensed at the

onset of school years and take into account the challenging social situations faced by these students as described in this article.

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