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Parenting Stress in Immigrant Families of Children With an Autism Spectrum Disorder: A Comparison With Families From the Host Culture

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Abstract

Immigrant families of children with autism spectrum disorders (ASD) face significant challenges in accessing and using rehabilitation services appropriate for their child's disorder. Compared to families native to their host country, the stress experienced by these families in relation to their child's condition may be magnified by their immigrant status. This study compared self-reported parenting stress levels among 24 mothers and 17 fathers who had immigrated to Canada to income-matched, Canadian-born parents. Overall, Canadian-born parents tended to report higher stress levels than immigrant parents, but this may be primarily due to the high stress levels among Canadian-born fathers relative to immigrant fathers and mothers from both types of families. These findings highlight the necessity of using supplemental and specialized stress measures when focusing on immigrant families, for whom stress associated with the immigration process may compound or manifest separately from parenting stress. Cultural influences on the perception of ASD (its causes, treatment, and prognosis), children's place in the family, and parents' roles in childrearing may also impact stress.

Introduction

Families of children with autism spectrum disorders (ASD) face several difficulties on a daily basis. Indeed, the symptoms associated with these diagnoses heighten the challenges of educating and caring for their child (Benson, 2006; Blacher & McIntyre, 2006; Davis & Carter, 2008; Freeman, Perry, & Factor, 1991). Furthermore, seeking out and obtaining appropriate health care and special education services and supports is especially problematic in the case of ASD (Brachlow, Ness, McPheeters, & Gurney, 2007; Bitterman, Daley, Misra, Carlson, & Markowitz, 2008; Hayes & Watson, 2013; Kogan *et al.*, 2008; Rivard, Lépine, Mercier, & Morin, 2014). As a result, these families have been shown to exhibit higher stress levels than the families of children with other conditions (*e.g.*, Down syndrome, cerebral palsy; Baker-Ericzen, Brookman-Frazee, & Stahmer, 2005; Blacher & McIntyre, 2006; Hayes & Watson, 2013; Rivard, Terroux, Parent-Boursier, & Mercier, 2014). Several family characteristics, such as being of a low socioeconomic status, undergoing an immigration process, or belonging to an ethnic or cultural minority, may intensify this stress. These situations may decrease families' access to, and usage of, services as well as increase their risk for social maladjustment and mental disorders (Bailey, Scarborough, Hebbeler, Spiker, & Mallik, 2004;

Harry, 1992; Denney, Itkonen & Okamoto, 2007; Mandell & Novak, 2005; McManus, McCormick, Acevedo-Garcia, Ganz, & Hauser-Cram, 2009; Rivard, Millau, Morin, & Forget, 2013). Although the literature highlights the specific challenges faced by immigrant families of children with ASD, to date it lacks systematic comparisons between immigrant and nonimmigrant families. This study sought to address this gap by contrasting the stress levels of first-generation immigrant and Canadian-born parents whose children had recently been diagnosed with ASD and placed on a waiting list for early intervention services.

Parenting Stress Among Families of Children With ASD

Families of children with ASD experience greater mental health, employment, social, and marital challenges in comparison to the families of children with physical or intellectual disabilities (Baker-Ericzen *et al.*, 2005; Blacher & McIntyre, 2006; Bouma & Schweitzer, 1990; Dumas, Wolf, Fisman, & Culligan, 1991; Hastings & Johnson, 2001; Holroyd & McArthur, 1976; Mugno, Ruta, D'Arrigo, & Mazzone, 2007; Olsson & Hwang, 2001; Sanders & Morgan, 1997; Wolf, Noh, Fisman, & Speechley, 1989). Unfortunately, these difficulties are widespread: one child out of every 68 receives an ASD diagnosis and this prevalence has been increasing continuously in recent years (Centers for Disease Control and Prevention, 2014). The stressors experienced by these families notably include delays in obtaining and confirming the child's diagnosis; seeking out and accessing appropriate services for both the child and the family; transitioning between daycare, kindergarten, and school (Osborne, McHugh, Saunders, & Reid, 2008). According to a recent study (Rivard, Terroux, *et al.*, 2014), between 54.1 and 60% of parents displayed clinically significant stress levels during the period following their child's diagnosis, as they were placed on a waiting list for services. These stress levels were notably influenced by mothers' education, the child's age, sex, and clinical profile, as well as waiting times for services.

Immigrant Families of Children With ASD

Immigrant families of children with ASD are doubly vulnerable to stress as they must tackle challenges inherent to their immigrant status (Berry & Sabatier, 2010; Berry & Sam, 1997; Thomas, 1995) alongside those of their child's condition (Cho & Gannotti, 2005; Klingner, Blanchett, & Harry, 2009; Mandell & Novak, 2005; Rueda, Monzo, Shapiro, Gomez, & Blacher, 2005). Their task of locating services and collaborating with professionals is made more complex by language barriers and cultural differences in terms of, for instance, their intervention priorities and their perceptions and understanding of disabilities and mental health (Cho & Gannotti, 2005; Klingner *et al.*, 2009; Mandell & Novak, 2005; Perry *et al.*, 2011; Pituch *et al.*, 2011; Welterlin & LaRue, 2007). Families of children with ASD who belong to ethnic or cultural minorities are indeed at a disadvantage in accessing quality services and with respect to their

child's prognosis and their family's quality of life (Bailey *et al.*, 2004; Emerson, McConkey, Walsh, & Felce, 2008; Fombonne, 2009; Families Special Interest Research Group of the International Association for the Scientific Study of Intellectual and Developmental Disabilities [FSIRG-IASSIDD], 2012; Jones *et al.*, 2011; Rosenberg, Daniels, Law, Law, & Kaufmann, 2009).

These disparities may be explained by immigrants' difficulty navigating the health and social services system of their host country, obtaining reliable information, and expressing themselves in the host language (Liptak *et al.*, 2008; Montes, Halterman, & Magyar, 2009; Mandell & Novak, 2005). Cultural variations in the perception of mental disorders and disabilities, prejudices toward mental disorders, and expectations for services may compound the impact of these hurdles (Barrio, 2000; Cho & Gannotti, 2005; Harry, Klingner, & Hart, 2005; Rivard *et al.*, 2013). Indeed, minority families experience more discrimination, are less satisfied with the services that they receive, and have less positive relationships with professionals compared to majority families (Cho & Gannotti, 2005; Freedman & Boyer, 2000; Samadi, McConkey, & Kelly, 2011, 2012; Rosenberg *et al.*, 2008).

Although the proportion of immigrant families is continually increasing in countries traditionally populated by predominantly White individuals¹, research in the field of ASD has generally focused on White, English-speaking families (Daley & Sigman, 2002; FSIRG-IASSIDD, 2012). The susceptibility to the negative consequences of a child's ASD diagnosis has been well documented among minority families (Gardiner & French, 2011; Klingner *et al.*, 2009; Mandell & Novak, 2005). However, the relationship between parents of children with ASD's immigrant status and stress levels has yet to be examined. Understanding how these families' situations influence their stress and overall quality of life is crucial to better addressing their needs (Gardiner & French, 2011).

Cultural Differences in Parental Roles

In addition to these concerns, it should be noted that culture influences family structure and parental roles. This may, in turn, affect how parents experience their child's condition. For instance, in traditional views of gender roles, fathers provide instrumental, financial, and disciplinary support and are therefore less present in the child's day-to-day life. For instance, Hofferth (2003) reported that Black fathers spent less time with their children and exercised greater control over them than did White fathers. Thus, investigations of immigrant parents' stress must also take into account cultural differences regarding mothers' and fathers' respective responsibilities and contact with their child who has ASD.

¹ For instance, immigrants make up 20.6% of the population of Canada and 22.6% of the population in the greater Montréal area (Statistics Canada, 2012).

Objectives

This study sought to examine the impact of migrant status on the stress levels of mothers and fathers whose child has ASD. To this end, the stress of parents who had immigrated to Canada was compared to that of parents born in this country. To the extent that mothers and fathers may experience their child's condition and immigration-related stressors differently, the impact of gender on parenting stress was examined alongside the impact of immigrant status.

Method

Participants

This study was conducted in Québec, a Canadian province in which services for children and adults with ASD are provided by public institutions called rehabilitation centers. These centers provide free specialized supports and rehabilitation services to any individual with a confirmed ASD diagnosis. All participants were enrolled in a broader research project assessing the effectiveness of a rehabilitation center's services (see Rivard, Terroux *et al.*, 2014). Among the initial population that completed the parenting stress measure (118 families), 24 families consisted of first-generation immigrant (*i.e.*, born outside of Canada) parents. In all cases, the child's mother and father were living together at the time of the study. However, for seven of these families, the father did not complete the parenting stress measure (see Table 1) because he was either unwilling or unavailable to participate directly in the study. These immigrant families were paired with 24 income-matched, Canadian-born families who had been recruited in the context of the same project. In order to maintain comparable samples, we omitted from statistical analyses the data from Canadian-born fathers who were paired to an immigrant family for which the father's demographic and stress information were missing. Thus, a total of 48 families were analyzed in this investigation (24 immigrant mothers and 24 Canadian-born mothers; 17 immigrant fathers and 17 Canadian-born fathers).

Measures

Parenting stress was assessed with the French version of the Parenting Stress Index Short Form (PSI/SF; Abidin, 1995; Bigras, LaFrenière, & Abidin, 1996). The PSI/SF is a self-report stress measure for parents of children aged between 3 months and 10 years. Responses are based on a five-point Likert scale. The instrument's 36 items are distributed across three subscales: Parental Distress, Parent-Child Dysfunctional Interactions, and Difficult Child. Scores on each subscale range between 13 and 65 points, yielding total scores between 36 and 180 points for the entire scale. Higher scores correspond to greater stress levels, with the authors recommending 90 points as a clinical cutoff. As a whole, the PSI/SF exhibits excellent internal consistency (Cronbach's $\alpha = .91$ for the entire scale; $.40$ – $.63$ for its subscales) and good test-retest reliability ($r = .84$ for the entire scale; $.68$ – $.85$ for its subscales; Abidin, 1995). The linguistic

and semantic equivalence of the French translation to its original was verified through a conventional back-translation process. The French version was standardized on a sample of 377 mothers whose age, ethnicity, and socioeconomic status was comparable to the normative sample for the original version (Bigras *et al.*, 1996).

Procedure

Prior to collecting data, the research team explained to family members the goals of the study, the scope of their participation, and the steps that would be taken to preserve their confidentiality. Those who elected to participate signed a consent form. Data collection took place while families were on the waiting list for early intervention services provided by the participating rehabilitation center. During a meeting with the parents, a research assistant administered several measures including the PSI/SF and a demographic questionnaire. When one of child's parents was unable to attend this meeting, the other parent was encouraged to give him or her a copy of each form and return it to the researchers by mail.

Analyses

Descriptive statistics were computed for the following demographic information: household income, education, employment, and ethnicity. A 2 (Migrant status) x 2 (Gender) related-samples factorial ANOVA was conducted for total parenting stress scores and for each of the three PSI/SF subscales. These ANOVAs only included the data from mothers that could be paired with corresponding responses from the child's father. In light of prior findings of superior stress among fathers compared to mothers in a Canadian-born sample (Rivard, Terroux *et al.*, 2014), these ANOVAs were followed up by planned contrasts that used paired-samples t-tests to compare Canadian-born men's scores to those of the three other subgroups. Fisher's exact test was used to compare the proportion of participants within each subgroup of the entire sample who exceeded the clinical cutoff for stress according to their total scores. The level of significance was set to .05 for all analyses.

Results

Demographic Information

Demographic information from participants both groups are displayed in Table 1. The majority of immigrant parents had annual household incomes ranging between CAN\$10,000 and \$29,000, the lowest income category. Because immigrant and non-immigrant families were paired on the basis of income, these proportions were also observed among Canadian-born parents. Immigrant fathers were more likely to be employed full time and less likely to stay at home than their Canadian-born peers. This pattern was reversed among mothers: compared to Canadian-born mothers, fewer immigrant mothers worked full time and more stayed at home. Immigrant fathers and mothers with a college or university degree were considerably more numerous than Canadian-born parents with the same educational attainment. Most of the immigrant families

had come from the Maghreb region (Algeria, Morocco, and Tunisia) and Latin America.

Table 1

Demographic Characteristics of Immigrant and Canadian-Born Parents

	Immigrant		Canadian-born	
	Mothers <i>n</i> (%)	Fathers <i>n</i> (%)	Mothers <i>n</i> (%)	Fathers <i>n</i> (%)
Family income				
\$10,000-29,999	12 (50)	9 (52.9)	12 (50)	9 (52.9)
\$30,000-49,999	3 (12.5)	1 (5.8)	3 (12.5)	1 (5.8)
\$50,000-69,999	5 (20.8)	4 (23.5)	5 (20.8)	4 (23.5)
\$70,000-89,999	1 (4.1)	1 (5.8)	1 (4.1)	1 (5.8)
\$90,000 and above	3 (12.5)	2 (11.7)	3 (12.5)	2 (11.7)
Level of education				
Incomplete secondary degree	4 (16.6)	1 (5.8)	7 (29.1)	4 (23.5)
Secondary or vocational degree	5 (20.8)	2 (11.7)	5 (20.8)	5 (29.4)
Postsecondary	5 (20.8)	3 (17.6)	6 (25)	4 (23.5)
Undergraduate	7 (29.1)	6 (35.3)	3(12.5)	0 (0)
Graduate	3 (12.5)	5 (29.4)	1 (4.1)	0 (0)
Other or missing information	0 (0)	0 (0)	2 (8.3)	4 (23.5)
Employment				
Full-time work	8 (33.3)	12 (70.5)	9 (37.5)	9 (52.9)
Part-time work	3 (12.5)	1 (5.8)	4 (16.6)	0 (0)
Freelance or contract work	0 (0)	0 (0)	1 (4.1)	1 (5.8)
At home	10 (41.6)	1 (5.8)	8 (33.3)	3 (17.6)
Other (e.g., student)	3 (12.5)	3 (17.6)	2 (8.3)	4 (23.5)
Birth Country				
North Africa (Maghreb)	8 (33.3)	5 (29.4)		
Latin America	5 (20.8)	4 (23.5)		
Central & West Africa	4 (16.6)	3 (17.6)		
Middle East	3 (12.5)	2 (11.7)		
Other (Haiti, China)	2 (8.3)	1 (5.8)		

Total Stress Levels

Mothers' and fathers' results on the PSI/SF are presented in Tables 2 and 3, respectively. Regarding total scores, only a significant main effect of migrant status was found, with Canadian-born parents reporting higher stress levels than their immigrant peers, $F(1,16) = 4.506$, $p = .050$. The main effect of gender and the interaction between migrant status and gender were not significant, $F(1,16) = 1.606$, $p = .223$ and $F(1,16) = 1.841$, $p = .194$, respectively. Planned comparisons indicated that Canadian-born fathers' stress scores were significantly higher than those of Canadian-born mothers, $t(16) = 2.149$, $p = .047$, immigrant fathers, $t(16) = 2.372$, $p = .031$, and immi-

grant mothers, $t(16) = 2.761, p = .014$. Thus, the main effect of migrant status may be partially driven by Canadian-born fathers' high total stress scores. When examining the proportion of parents for whom total scores exceeded the clinical cutoff, no differences were found between immigrant (76.47%) and Canadian-born (94.2%) fathers, $p = .168$, or between immigrant (79.2%) and Canadian-born (95.8%) mothers, $p = .094$.

Table 2

Mothers' Total and Subscale Scores on the Parenting Stress Index Short Form

	Immigrant <i>M (SD)</i>	Canadian-born <i>M (SD)</i>	Total <i>M (SD)</i>
Parental Distress	38.92 (10.19)	43.63 (5.89)	42.21 (14.29)
Difficult Child	35.45 (10.62)	33.83 (8.46)	34.64 (9.53)
Parent-Child Dysfunctional Interaction	38.08 (6.24)	40.54 (5.57)	39.31 (5.98)
Total stress	112.46 (22.84)	123.13 (26.58)	115.36 (19.74)

Table 3

Fathers' Total and Subscale Scores on the Parenting Stress Index Short Form

	Immigrant <i>M (SD)</i>	Canadian-born <i>M (SD)</i>	Total <i>M (SD)</i>
Parental Distress	37.94 (10.22)	46.76 (9.95)	42.35 (10.89)
Difficult Child	37.47 (10.97)	45.35 (15.60)	41.61 (13.87)
Parent-Child Dysfunctional Interaction	35.17 (6.74)	40.06 (7.18)	37.61 (7.29)
Total stress	110.59 (24.92)	128.65 (22.23)	119.62 (23.05)

Scores on the PSI/SF Subscales

As with total scores, only a significant main effect of migrant status was observed for the Parental Distress subscale, with Canadian-born parents reporting higher levels of distress than their immigrant peers, $F(1,16) = 11.817, p = .003$. The main effect of gender and the interaction between migrant status and gender were not significant, $F(1,16) = 1.025, p = .326$ and $F(1,16) = 0.793, p = .386$. Canadian-born fathers' parental distress scores did not differ from those of Canadian-born mothers, $t(16) = 1.300, p = .212$, but were significantly higher than both immigrant fathers', $t(16) = 2.720, p = .015$, and immigrant mothers' scores, $t(16) = 3.414, p = .004$.

A similar pattern of results was observed for the Parent Child Dysfunction-Interaction subscale, with only the main effect of migrant status attaining significance, $F(1,16) = 6.045, p = .026$. The main effect of gender and the interaction between migrant status and gender were not significant, $F(1,16) = 2.646, p = .123$ and $F(1,16) = 0.546, p = .462$. According to planned contrast analyses, Canadian-born fathers' scores on this subscale did not differ from those of Canadian-born mothers, $t(16) = 0.093, p = .927$, immigrant fathers, $t(16) = 1.611, p = .127$, or immigrant mothers, $t(16) = 1.297, p = .213$.

For the Difficult Child subscale, however, a different pattern of group differences emerged. There was a main effect of gender, $F(1,16) = 7.114, p = .017$. The main effect of migrant status and the interaction between migrant status and gender did not attain significance, $F(1,16) = 0.904, p = .356$, and $F(1,16) = 4.205, p = .057$, respectively. Canadian-born fathers' scores on this subscale significantly exceeded those of Canadian-born mothers, $t(16) = 2.891, p = .011$, and immigrant mothers, $t(16) = 2.161, p = .046$, but not those of immigrant fathers, $t(16) = 1.771, p = .096$.

Discussion

To the best of our knowledge, this study was the first to compare the stress levels reported by parents of children with ASD according to their migrant status. The literature on families of children with ASD reports elevated stress as a result of the child's diagnosis as well as additional challenges for immigrant families. This study compared immigrant and Canadian-born parents' stress at a crucial point in their trajectory within public services, that is, after their child's diagnosis but prior to receiving services.

The high stress levels noted across the entire sample is consistent with other studies examining the families of children with ASD (Baker-Ericzen *et al.*, 2005; Blacher & McIntyre, 2006; Rivard, Terroux *et al.*, 2014). In fact, the mean total stress score (117.04) and the overall proportion of participants (87.8%) whose score was at or above the clinical cutoff exceeded previously documented levels. For instance, the proportion of families experiencing clinically significant stress levels varies between 26 and 85% across studies (Ingersoll & Hambrick, 2011; Kayfitz, Gragg, & Orr, 2010). The rates of clinically significant stress were comparable across genders and may be attributable to three characteristics of the present study: the moment at which data were collected, families' socioeconomic status, and waiting times for services.

Data were collected during the period following the child's diagnosis, as the families were placed on a waiting list for early intervention. This period was previously found to be particularly stressful for the parents of young children with ASD (Cox *et al.*, 1999; Davis & Carter, 2008; Osborne *et al.*, 2008). Because immigrant and Canadian-born parents were paired in terms of annual household income, lower-income families (less than \$29,000 per year) were overrepresented in the final sample. These families are less

likely to receive early intervention services and display greater psychological distress, higher stress, and less positive parenting than families with a higher socioeconomic status (Bailey *et al.*, 2004; Denney *et al.*, 2007; Bakermans-Kranenburg, Van IJzendoorn, & Kroonenberg 2004; McManus *et al.*, 2009). Furthermore, the length of the waiting period to obtain public services, which may be up to 2 years in the province of Québec, is in itself source of stress (Québec Ombudsman, 2009; Rivard, Terroux *et al.*, 2014). Given these waiting times and provided they have the financial means to do so, families may turn to private clinics to obtain early intervention services for their child. Low socioeconomic status families cannot afford private care and must thus endure the stress of long waiting periods during which their child is not receiving the services that he or she needs.

The primary goal of this study was to ascertain whether immigrant mothers and fathers experienced higher stress levels than Canadian-born parents of children with ASD. To date, the literature on this topic suggests that given the additional challenges faced by first-generation immigrants in general, immigrant parents whose child has ASD are likely to experience higher stress levels than parents native to their host country. The additional difficulties faced by immigrant parents of children with ASD have been documented elsewhere (Cho & Ganotti, 2005; Klingner & al, 2005). Indeed, the social, cultural, and economic adjustment required of immigrant families are compounded by difficulties associated with their child's diagnosis, namely in terms of gaining access to ASD services and related to their child's behavioral and developmental particularities. Moreover, language barriers, a lack of familiarity with the health care system, as well as cultural differences with respect to values, expectations, and perception of the child's diagnosis can be major obstacles to gaining access to services and collaborating with professionals. Because these many potential difficulties, the original hypothesis underlying this study was that immigrant families would report higher stress levels than families native to their host country. In actuality, the immigrant families who participated in the present study tended to show lower levels of stress compared to their Canadian-born peers. Several factors may account for this unexpected result: the type of measures used, parents' status with respect to accessing specialized services, several characteristics of participating immigrant families, or cultural differences in the perception of parental roles or understanding of ASD.

Regarding the potential impact of measure selection, the unexpected finding of lower stress among immigrants may be attributable to the specific nature of the stress scale adopted for this study. Indeed, the PSI/SF measures parenting stress exclusively, without accounting for other stressful life circumstances or events (Abidin, 1995). It may thus fail to fully capture the stress experienced by immigrant parents. This speculation finds support in a study by Emmen *et al.* (2013) that tested a minority family stress model among immigrant mothers of typically developing children aged between 5 and 16 years. The authors found that (1) acculturation stress was linked to socioeconom-

ic status and (2) was correlated with fewer positive parenting experiences, and (3) that general psychological distress levels were uncorrelated to acculturation stress. They inferred that stress pathways may differ between immigrant and majority families. Thus, investigations into the challenges faced by immigrant families may require the use of specific measures of acculturation stress, as well as gathering information on their immigration history and their experience of integration in the host culture, including discrimination in order to assess the full complexity of their stress process. Unfortunately, no such data were collected in this study.

Another possible explanation for the fact that immigrant mothers and fathers did not display higher stress levels than their Canadian-born peers may be related to their interactions with the rehabilitation center. At the time of the study, these families were awaiting services from, and therefore in contact with, the regional rehabilitation center. Yet one of the most frequently reported difficulties faced by immigrant families of children with special needs relates to the accessibility of such services (FSIRG-IASSID, 2012; Haack, Gerdes, & Lawton, 2014; Jones *et al.*, 2011; Klingner *et al.*, 2009; Welterlin & LaRue, 2007). Although they had yet to receive services, the mothers and fathers enrolled in this study had been able to have their child diagnosed and had secured a place on a waiting list for early behavioral intervention. Their situation may therefore not be representative of immigrant families in general. Some of the demographic characteristics of these parents, namely their high level of education, may have facilitated their access to services. Indeed, approximately half of immigrant parents in this study had obtained an undergraduate (bachelor's) or graduate (master's or doctoral) degree. A study by Goldyne (2013) reported that families whose immigration experience is positive (*i.e.*, without acculturation stress) are more oriented toward the host culture. They are thus more likely to have access to social support and information about resources available to parents. Given their high education levels, the immigrant families who participated in the present study may therefore have a generally more positive immigration experience, which could also facilitate their access to services. Moreover, cultural differences in families' attitudes and coping strategies could account for these findings. For instance, Blacher and McIntyre (2006) report that Latin American families present more positive attitudes toward their child with disabilities. Thus, culture-specific values regarding disability, along with attitudes toward stress, may contribute to the fact that the immigrant parents in this study did not present elevated stress levels compared to Canadian-born families in spite of facing additional challenges.

The observation of higher stress levels among Canadian-born fathers compared to their immigrant peers and mothers is consistent with findings by Rivard, Terroux *et al.* (2014). Using the PSI/SF, these authors also noted higher total stress scores and a higher proportion of clinically significant stress among fathers ($M = 118.35$, 60.6%) than mothers ($M = 112.38$ and 54.1%). The fact that Canadian-born fathers reported

higher stress levels than their immigrant peers may be due to cultural differences in the perception of paternal roles and fathers' level of involvement with their children. As a function of fathers' culture, these may have translated into varying levels awareness of their child's atypical behaviors and development, and thus concerns about his or her future and parenting stress. For instance, in some cultures the father tends to be seen as an authority figure who is responsible for the family's financial security (Al-Krenawi & Graham, 2000). Fathers' involvement in child-rearing also varies greatly in terms of intensity and task sharing across cultures. Canadian-born fathers may not be perceived exclusively as breadwinners and may be expected to participate more directly in their child's daily life. For instance, we noted that they three times more likely to stay at home in the present study. This greater proximity to their child may translate into an increased awareness of his or her atypical behaviors and development, thereby eliciting more concerns about the child's future and higher levels of parenting stress. More generally, the lower stress levels observed among immigrant families may be due to cultural differences in terms of their expectations and norms for children, which may extend to how the child's behavioral and emotional difficulties are perceived.

Limitations

As a preliminary exploration of the relationship between parenting stress and immigrant status, the present study was not without limitations. First, the stress measure cannot be considered culture-free: although translated versions normed among other cultural groups (*e.g.*, Hispanic cultures) were available, the Québec French version was used for this study. Its content validity was assessed within, and therefore influenced by, the predominant culture in Québec. As such, the items used to assess stress may not be sufficiently sensitive to parenting stress as it is experienced and expressed in immigrant families' native cultures. The study sample was also relatively small and not necessarily representative of immigrant families of children with ASD. It namely excluded families who had not be referred to services or sought to obtain these on their own. Highly educated and low-income parents were also overrepresented. These sampling issues are due to the fact that the research project from which these data were obtained was not designed for an in-depth examination of immigrant families. For this same reason, additional information regarding families' immigration history, reasons for immigrating, acculturation stress, and coping strategies were not collected. Future studies would benefit from gathering this type of information in order to better examine parenting and acculturation stress as they relate to the immigration process. In this respect, two ongoing projects are specifically investigating immigrant families' 1) perception of ASD symptoms, treatment, and prognosis; 2) expectations toward parental support services; and 3) perceptions of service delivery. In light of some of the limitations encountered in the present study, these projects will further examine variables relating to immigration conditions, acculturation, and cultural differences in parental roles and conceptualizations of

ASD.

Conclusion

This study demonstrates that the families of children with ASD generally experience high stress levels. In fact, participants reported stress levels in excess of what had been observed among this population, which may be attributable to their comparably lower income. Financial difficulties may exacerbate the stress of having a child with ASD. Contrary to what had been hypothesized, immigrant parents did not display higher total stress levels than their Canadian-born peers. Such findings do not necessarily indicate that immigrant parents do not experience heightened stress. Rather, it may be that a measure of parenting stress such as the PSI/SF does not capture the presence of additional sources of stress. Additionally, these results suggest that stress levels may also be related to families' characteristics and status with respect to gaining access to services. Through these observations, this study highlights important considerations for future research and clinical applications. First, the high levels of stress noted here in both native and immigrant families and their possible relation to household income suggest that families placed on a waiting list for services could benefit from less resource-intensive parental support programs. Second, research on immigrant families' experiences would benefit from additional information about immigration history, acculturation stress, social support, and culturally-based perceptions of parental roles and ASD, as well as from the selection of psychological measures normed for use among these groups. These precautions would support a broader understanding of these families' complex situation and pave the way for solutions.

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