

## The Experience of Canadian Immigrant Families of Children with Autism Spectrum Disorder

*L'expérience de familles canadiennes issues de l'immigration dont l'enfant a un trouble du spectre de l'autisme*

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### Abstract

*Previous literature has established that parents of children with autism spectrum disorder (ASD) experience major impacts on the family. However, immigrant parents are often not included in such research and differences between Canadian-born and immigrant parents are unknown. The Perry Model of Stress (Perry, 2004) conceptualizes the experience of parents, positing that stressors (child characteristics and other life stressors), resources (individual personal resources and family system resources), and supports (informal social support and formal supports and services) should be considered in understanding both negative and positive family impacts of raising a child with ASD. Several of these factors might be expected to differ for immigrant families. This study compared positive and negative impacts, stressors, resources and supports, between 65 immigrant and 95 Canadian-born parents of children with ASD. There were no differences in positive or negative impacts overall. However, immigrant parents had significantly higher scores for positive coping, satisfaction with formal services, and informal social supports. Predictors of outcome differed somewhat for the two groups, but higher positive coping significantly predicted greater positive outcomes in both groups. These findings suggest that the experiences of immigrant and Canadian-born parents may be more similar than different.*

## Résumé

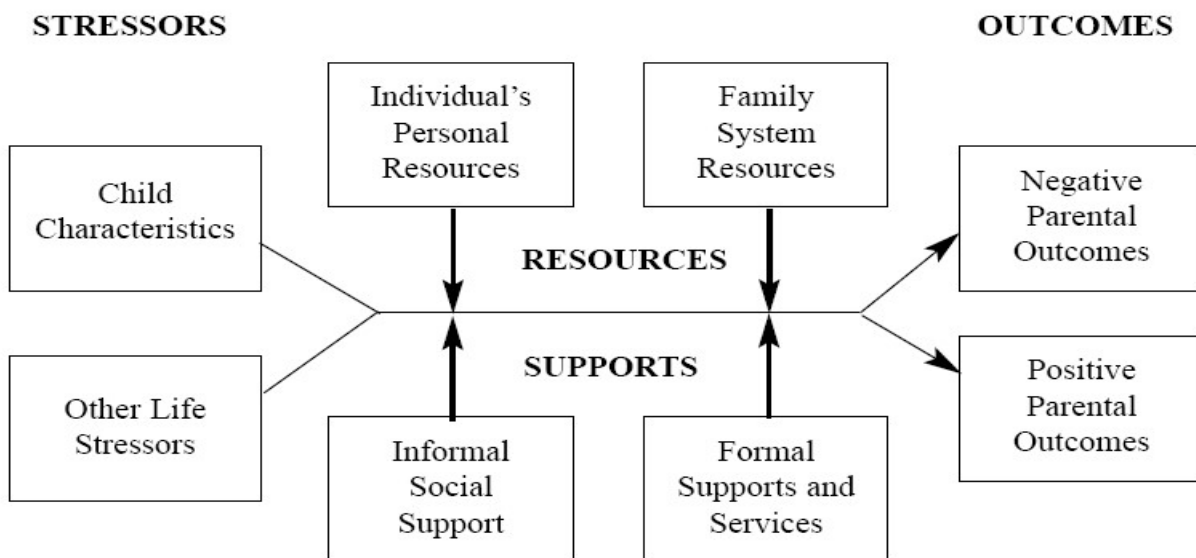
Les écrits scientifiques antérieurs font état que les parents d'enfants ayant un trouble du spectre de l'autisme (TSA) éprouvent des impacts majeurs sur leur famille. Cependant, les parents issus de l'immigration ne sont généralement pas dans ces recherches et les différences entre eux et les parents nés au Canada sont inconnues. Le modèle de stress de Perry (Perry, 2004) conceptualise l'expérience des parents en postulant que les facteurs de stress (caractéristiques de l'enfant et autres facteurs de stress de la vie), les ressources (ressources personnelles individuelles et ressources du système familial) et les soutiens (soutien social informel et soutien formel et les services) doivent être pris en compte afin de comprendre les impacts familiaux négatifs et positifs d'élever un enfant ayant un TSA. Plusieurs de ces facteurs peuvent différer pour les familles issues de l'immigration. La présente étude a comparé les impacts positifs et négatifs, les facteurs de stress, ainsi que les ressources et les soutiens entre 65 parents issus de l'immigration et 95 parents nés au Canada d'enfants ayant un TSA. Dans l'ensemble, il n'y avait pas de différences au niveau des impacts négatifs ou positifs. Cependant, les parents issus de l'immigration avaient des scores significativement plus élevés pour l'adaptation positive, la satisfaction à l'égard des services formels et les soutiens sociaux informels. Les prédicteurs de résultats différaient quelque peu pour les deux groupes, mais une adaptation positive plus élevée prédisait de manière significative des résultats positifs plus importants dans les deux groupes. Ces résultats suggèrent que les expériences des parents issus de l'immigration et de ceux nés au Canada pourraient être plus similaires que différentes.

*Mots-clés* : Parents immigrants, autisme, facteurs de stress, ressources, soutiens

## Introduction

Children with autism spectrum disorder (ASD) have impairments in social interactions, verbal and non-verbal communication, and repetitive behaviours (Smith et al., 2010). These children can also have other mental health and/or behavioural difficulties (Esteves et al., 2021). Families of children with ASD report greater hardships, emotional and physical demands, financial burden, social stigma, and marital issues compared to families with typically developing children (Benson & Kersh, 2011; Rao & Beidel, 2009; Smith et al., 2010). Despite these negative impacts on families, there can be positive impacts simultaneously (Perry, 2004).

The Perry Model of Stress serves as a framework for conceptualizing the holistic experiences of parents of children with developmental disabilities, positing that three broad domains (Stressors, Resources, and Supports) jointly influence a family's negative and positive outcomes (Perry, 2004; see Figure 1). The application of the model for parents of children with ASD can lead to a better understanding of their holistic experiences through considering factors within the Stressors, Resources, and Supports domains.

**Figure 1***The Perry Model of Stress*

Immigrant parents may face additional life stressors compared to non-immigrant parents (Grace et al., 2016), which may influence negative impacts. In two studies comparing Canadian immigrant and non-immigrant parents of children with developmental disabilities (such as ASD; Luthra, 2018; Millau et al., 2019), immigrant parents reported poorer ratings of mental health and family quality of life, and greater negative family impacts compared to Canadian parents. These negative experiences may be influenced by less available or less effective social support for immigrant parents (John et al., 2016; Khanlou et al., 2017), who may experience even greater frustration with formal supports, such as healthcare and education systems, than other parents (Khanlou et al., 2017). However, cultural and religious factors may buffer against these negative impacts. For example, South African parents of children with ASD reported positive appraisals of their situation and family functioning by re-creating positive meanings about their child amidst the negativity (Schlebusch & Dada, 2018). Additionally, through qualitative interviews, Pakistani mothers of children with ASD expressed that their religion has helped them tremendously in coping with their family circumstances (Habib et al., 2017).

Most studies on immigrant families with a child with ASD have limitations such as small sample size (Habib et al., 2017; John et al., 2016; Khanlou et al., 2017), include disabilities besides ASD (John et al., 2016; Luthra, 2018), or lack comparisons with non-immigrant families (except Luthra, 2018 and Millau et al., 2019). Furthermore, although not necessarily an inherent limitation, studies solely utilizing qualitative analyses may not allow for group comparisons to be made (Habib et al., 2017; Khanlou et al., 2017). These limitations raise issues regarding generalizability to immigrant parents of children with ASD and limit our understanding of their holistic experience.

The goals of this study were to explore similarities and differences between immigrant and Canadian-born parents of children with ASD in their positive and negative outcomes, Stressors,

Resources, and Supports. Finally, predictors of positive and negative outcomes are reported for each group.

## Method

A secondary analysis of previously collected data (O. Weiss, 2020) was used to examine Canadian-born and immigrant parents of children with ASD. The present study received approval from the agency where data were collected and from the research ethics board at York University (certificate #e2021-030).

### Participants

Parents were recruited from a public agency providing ASD services located in Toronto, Ontario, Canada. Of the entire sample ( $n = 166$ ), 43% identified as immigrants to Canada ( $n = 70$ ), hailing from 37 different countries. Six participants were removed due to incomplete information. The final sample included 65 immigrant and 95 Canadian-born parents. Immigrant parents had been in Canada for varying lengths of time and only six had been in Canada for less than 5 years. See Table 1 and Table 2 for detailed demographics.

**Table 1**

*Participant Demographic Information (Continuous Variables)*

	All Participants ( $n = 160$ )		Immigrant ( $n = 65$ )		Canadian-Born ( $n = 95$ )	
	<i>M</i> (SD)	Range	<i>M</i> (SD)	Range	<i>M</i> (SD)	Range
Age (years)	43.65 (6.64)	24-61	44.1 (5.99)	31-61	43.37 (7.08)	24-56
Barratt Score	48.02 (10.76)	16-66	47.22 (12.3)	19-66	48.86 (9.22)	16-66
Years in Canada	—	—	21.26 (14.17)	2-53	—	—

The parent groups did not differ significantly in age ( $t(142.61) = .69, p = .49$ ). Socioeconomic status (SES) was based on the Barratt Score, which is derived using education level and income (Barratt, 2006 as adapted by O. Weiss, 2020). SES varied widely but did not differ significantly between parent groups ( $t(111.39) = -.91, p = .37$ ).

**Table 2***Participant Demographic Information (Categorical Variables)*

	Immigrant	Canadian-Born
	<i>n</i> (%)	<i>n</i> (%)
Gender		
Female	54 (83.1)	69 (72.6)
Male	11 (16.9)	26 (27.4)
Relationship to Child with ASD		
Biological parent	64 (98.5)	86 (90.5)
Adoptive parent	--	5 (5.3)
Grandparent	--	1 (1.1)
Marital Status		
Married or common-law	60 (92.3)	76 (80.0)
Separated, divorced, single, or widowed	5 (7.7)	19 (20.0)
Region of birth country		
North America	2 (3.1)	95 (100.0)
East Asia	25 (38.5)	--
European Union	11 (16.9)	--
South Asia	9 (13.8)	--
Africa	5 (7.7)	--
Middle East	4 (6.2)	--
South America	3 (4.6)	--
Eastern Europe	3 (4.6)	--
The Caribbean	3 (4.6)	--
Native language		
Arabic	2 (3.1)	--
Bengali	5 (7.7)	--
Cantonese	3 (4.6)	--
Chinese (unspecified)	3 (4.6)	--
English	14 (21.5)	92 (97.9)
Filipino	3 (4.6)	--
Mandarin	4 (6.0)	--
Portuguese	2 (3.1)	--
Russian	3 (4.6)	--
Spanish	2 (3.1)	--
Tagalog	5 (6.7)	--
Urdu	2 (3.1)	--
Vietnamese	2 (3.1)	--
Other	15 (22.5)	3 (3.1)
Education level		
Junior high school	1 (1.5)	2 (2.1)
Partial high school	2 (3.1)	1 (1.1)
High school	7 (10.8)	4 (4.2)
Partial college/university	6 (9.2)	7 (7.4)

College/university	33 (50.8)	56 (58.9)
Graduate degree	16 (24.6)	25 (26.3)
Employment Status		
Full-time	22 (33.8)	51 (53.7)
Part-time	18 (27.7)	14 (14.7)
Unemployed/stay at home	25 (38.5)	29 (30.5)

## Measures

### *Positive and Negative Outcomes*

The Family Impact of Childhood Disability Scale (FICD; Trute & Hiebert-Murphy, 2002) uses a 4-point Likert scale (1 = *Not at all*, 4 = *Substantial degree*) for parents to indicate their level of agreement with 10 positive (e.g., “This experience has brought us closer to god”) and 10 negative (e.g., “We have had unwelcomed disruptions to family routines”) outcomes of raising a child with developmental disabilities. There was good internal reliability for immigrant and Canadian-born groups for the positive ( $\alpha = .83$  and  $.81$ , respectively) and negative ( $\alpha = .89$  for both groups) subscales.

### *Stressors*

**Child Characteristics.** Three child characteristics were examined (age, gender, and adaptive skill level) using the GO4KIDDS Brief Adaptive Scale (Perry et al., 2015), which is a 7-item measure of the child’s social, communication, and daily living skills. There was high internal reliability in immigrant and Canadian-born parents ( $\alpha = .88$  and  $.87$ , respectively).

**Other Life Stressors.** A list of possible stressful life events was provided to parents to indicate whether any had occurred in the last 12 months. This included 23 general events that could impact any family member (e.g., death of a family member, financial issues), and 10 events that were specific to having a child with ASD (e.g., starting at a new school, loss of a good caregiver; Perry & J. Weiss, 2008).

### *Resources*

**Individual’s Personal Resources.** Parents’ coping was measured using the Brief COPE Scale (Carver, 1997). This 28-item measure uses a 4-point Likert scale (1 = *Haven’t been doing this at all*, 4 = *Been doing this a lot*). As per the original study (O. Weiss, 2020), the Brief COPE was scored as Positive Coping (e.g., “I’ve been looking for something good in what is happening”) and Negative Coping (e.g., “I’ve been using alcohol or drugs to make myself feel better”). Positive Coping scores had good internal reliability for both immigrant and Canadian-born groups ( $\alpha = .88$  and  $.82$ , respectively) and Negative Coping had acceptable levels ( $\alpha = .77$  and  $.78$ , respectively).

**Family System Resources.** Family hardiness was measured by the Inventory of Family Protective Factors (Gardner et al., 2008). Parents indicated their agreement on a 5-point Likert scale (1 = *Not true at all*, 5 = *Very true*) to four statements about how the family has been able to

handle issues that have arisen (e.g., “Our family has coped well with one or more major stressors in our lives”). Good internal reliability was observed in the immigrant and Canadian-born groups ( $\alpha = .81$  and  $.85$ , respectively).

### **Supports**

**Informal Social Supports.** Parents were provided with a list of 13 potential sources of informal social support (e.g., friends, co-workers) and asked to rate their helpfulness on a 5-point Likert scale (1 = *Not at all helpful*, 5 = *Extremely helpful*; Dunst et al., 1984 as adapted by O. Weiss, 2020). Reliability was very high for immigrant parents ( $\alpha = .97$ ) and good for Canadian-born parents ( $\alpha = .83$ ).

**Formal Supports and Services.** On a list of various professionals and services, parents were asked to indicate which services the child and/or the family have accessed in the past 12 months (e.g., marriage counsellor, child psychologist, social worker; Perry & J. Weiss, 2008). They were then asked to make two general ratings: their satisfaction with the services and whether the services had met their child and/or family’s needs. Each was rated on a 5-point Likert scale (1 = *Very dissatisfied*, 5 = *Very satisfied*; 1 = *Not a good match at all*, 5 = *Completely matched needs*) and the mean of the two was used as the measure of formal supports as per O. Weiss (2020). The internal reliability of this satisfaction measure was very good for both immigrant and Canadian-born parents ( $\alpha = .86$  and  $.88$ , respectively).

## **Results**

### **Comparisons of Immigrant and Canadian-born Groups**

To determine whether there were potential differences in positive and negative outcomes between immigrant and Canadian-born parents of children with ASD, two independent samples *t*-tests were conducted. Results are shown in Table 3. No significant differences were found between the two groups for positive or negative impacts.

**Table 3**

*Comparing Immigration Status and Outcomes, Stressors, Resources, and Supports*

	Immigrant		Canadian-Born		<i>t</i>	<i>p</i>	Cohen’s <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
<b>Outcomes</b>							
Positive impact <sup>a</sup>	2.81	0.59	2.68	0.55	1.41	.16	.23
Negative impact <sup>a</sup>	2.38	0.76	2.54	0.75	-1.28	.20	.21
<b>Stressors</b>							
Child adaptive skill level <sup>a</sup>	3.71	0.87	4.05	0.76	-2.62	.01	.42
Total stressful life events <sup>b</sup>	2.69	1.99	2.63	2.09	0.18	.85	.03

Resources							
Positive coping <sup>a</sup>	2.80	0.62	2.59	0.52	2.39	.02	.39
Negative coping <sup>c</sup>	1.81	0.47	1.85	0.49	-0.12	.90	.02
Family hardiness <sup>a</sup>	3.65	0.78	3.56	0.74	0.81	.42	.13
Supports							
Total informal supports <sup>a</sup>	7.34	3.12	9.23	2.51	-4.21	<.001	.68
Total formal services <sup>a</sup>	5.91	2.75	5.40	2.18	1.25	.22	.21
Informal supports satisfaction <sup>a</sup>	3.09	0.78	2.74	0.77	2.79	.006	.45
Formal services satisfaction <sup>d</sup>	3.40	0.85	3.07	1.02	2.25	.03	.35

<sup>a</sup>*n* = 160; <sup>b</sup>*n* = 159; <sup>c</sup>*n* = 155; <sup>d</sup>*n* = 156

Similar comparisons were made for the other Perry model domains (Stressors, Resources, and Supports), also shown in Table 3.

### ***Stressors***

Immigrant parents reported that their child with ASD had significantly lower adaptive skills compared to children of Canadian-born parents with a small effect size ( $d = .42$ ). However, the two parent groups reported experiencing roughly the same number of stressful life events.

### ***Resources***

Positive coping was significantly higher in immigrant parents than Canadian-born parents with a small effect size ( $d = .39$ ). For negative coping, however, there were no significant differences. Family hardiness scores also did not differ between the two groups.

### ***Supports***

Immigrant parents reported having fewer sources of informal social support than Canadian-born parents (medium effect size,  $d = .68$ ). However, immigrant parents rated their satisfaction with their informal social supports to be significantly higher (small effect size,  $d = .45$ ). The number of formal supports and services did not differ. However, immigrant parents reported significantly higher satisfaction with their formal supports than Canadian-born parents (small effect size,  $d = .35$ ).

### **Predictors of Positive and Negative Outcomes**

Hierarchical linear regressions were conducted to predict the two outcomes by entering variables from each domain as predictors in hierarchical steps (first Stressors, then Resources, and finally Supports), separately for the two parent groups. For the Stressors domain, child gender was found to be negligibly related to the outcomes and thus was removed as a predictor variable. In addition, the number of informal supports and formal services were removed based on the same rationale, although the two satisfaction variables were retained.



### *Positive Outcomes*

For immigrant parents, as seen in Table 4, Stressors alone were not significant predictors, accounting for only 7% of the variance (Model 1), but individual and family resources accounted for an additional 29%. The addition of formal and informal supports did not add significantly. The final model was significant and accounted for 38% of the variance. The only predictors that were significant in the final model were the two Resources variables, indicating that higher positive coping and greater family hardiness significantly predicted higher positive outcome scores.

**Table 4**

*Hierarchical Regression for Positive Outcomes in Immigrant Parents*

Model		B	SE. B	$\beta$	<i>t</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
1	(Constant)	3.6	0.40	—	8.96*	.07	—
	Child age	-0.01	0.02	-.06	-0.43		
	Adaptive skill level	-0.14	0.10	-.22	-1.51		
	Stressful events	-0.06	0.04	-.21	-1.51		
2	(Constant)	0.80	0.76	—	1.05	.36	.29
	Child age	-0.002	0.02	-.01	-0.08		
	Adaptive skill level	-0.06	0.09	-.09	-0.68		
	Stressful events	-0.06	0.04	-.19	-1.57		
	Positive coping	0.46	0.12	.47	3.92*		
	Negative coping	0.02	0.17	.01	0.09		
	Family hardiness	0.30	0.10	.38	3.00*		
3	(Constant)	0.89	0.85	—	1.05	.38	.02
	Child age	-0.002	0.02	-.01	-0.09		
	Adaptive skill level	-0.08	0.09	-.11	-0.86		
	Stressful events	-0.06	0.04	-.19	-1.60		
	Positive coping	0.40	0.13	.41	3.10*		
	Negative coping	0.03	0.18	.02	0.15		
	Family hardiness	0.27	0.10	.35	2.63*		
	Satisfaction with informal supports	0.15	0.12	.19	1.18		
	Satisfaction with formal services	-0.07	0.11	-.09	-0.60		

$F(2, 51) = 10.21, p = .49, *p < .05$

For the Canadian-born parents (see Table 5), the pattern was somewhat different. In Model 1, Stressors alone accounted for a nonsignificant 8% of the variance. At Step 2, the addition of Resources accounted for an additional 13% which was significant and two specific variables were significant (child's adaptive skills and family hardiness). However, at Step 3, these two variables were no longer significant in the final model, and only higher positive coping and

greater satisfaction with informal social supports significantly predicted greater positive outcomes. Only 29% of the variance was accounted for in this final model.

**Table 5***Hierarchical Regression for Positive Outcomes in Canadian-Born Parents*

Model		B	SE. B	$\beta$	<i>t</i>	$R^2$	$\Delta R^2$
1	(Constant)	3.40	0.31	—	10.9*	.08	—
	Child age	-0.01	0.02	-.06	-0.59		
	Adaptive skill level	-0.13	0.08	-.18	-1.69		
	Stressful events	-0.04	0.03	-.17	-1.65		
2	(Constant)	2.17	0.54	—	4.00*	.21	.13
	Child age	-0.001	0.02	-.008	-0.08		
	Adaptive skill level	-0.17	0.07	-.24	-2.36*		
	Stressful events	-0.04	0.03	-.17	-1.60		
	Positive coping	0.20	0.11	.19	1.84		
	Negative coping	0.02	0.14	.02	0.13		
	Family hardiness	0.22	0.09	.31	2.51*		
3	(Constant)	1.14	0.62	—	1.84	.29	.08
	Child age	0.004	0.02	.03	0.25		
	Adaptive skill level	-0.11	0.07	-.16	-1.55		
	Stressful events	-0.03	0.03	-.11	-1.11		
	Positive coping	0.24	0.11	.22	2.24*		
	Negative coping	0.09	0.13	.09	0.69		
	Family hardiness	0.16	0.09	.22	1.80		
	Satisfaction with informal supports	0.17	0.08	.24	2.02*		
	Satisfaction with formal services	0.08	0.06	.14	1.17		

$F(2, 81) = 11.56, p = .01, *p < .05$

***Negative Outcomes***

For immigrant parents (see Table 6), Model 1 (Stressors domain only) accounted for 7% of the variance but was not significant. The overall addition of Resources at Step 2 accounted for a significant 17% increase in variability but no individual variables were significant. The addition of Supports at Step 3 and in the final model was not significant. The final model accounted for 25% of the variance but had no significant individual predictor variables.

**Table 6***Hierarchical Regression for Negative Outcomes in Immigrant Parents*

Model		B	SE. B	$\beta$	<i>t</i>	$R^2$	$\Delta R^2$
1	(Constant)	2.41	0.49	—	4.97*	.07	—
	Child age	0.02	0.03	.12	0.87		
	Adaptive skill level	-0.11	0.11	-.14	-0.97		
	Stressful events	0.07	0.05	.19	1.37		
2	(Constant)	2.18	1.00	—	2.18*	.24	.17
	Child age	0.02	0.02	.12	0.96		
	Adaptive skill level	-0.09	0.11	-.12	-0.83		
	Stressful events	0.02	0.05	.06	0.47		
	Positive coping	0.16	0.15	.13	1.03		
	Negative coping	0.35	0.23	.22	1.57		
	Family hardiness	-0.22	0.13	-.24	-1.73		
3	(Constant)	2.42	1.13	—	2.16*	.25	.01
	Child age	0.02	0.03	.11	0.87		
	Adaptive skill level	-0.09	0.12	-.11	-0.79		
	Stressful events	0.02	0.05	.06	0.43		
	Positive coping	0.21	0.17	.18	1.23		
	Negative coping	0.31	0.23	.20	1.34		
	Family hardiness	-0.21	0.13	-.22	-1.54		
	Satisfaction with informal supports	-0.08	0.16	-.08	-0.46		
	Satisfaction with formal services	-0.04	0.14	-.04	-0.26		

$F(2, 81) = 17.13, p = .02, *p < .05$

For Canadian-born parents (see Table 7), the Stressors variables at Step 1 were significant, accounting for 14% of the variance. Older age of the child and more stressful life events were significant predictors at Step 1. When Resources were added at Step 2, there was a 20% increase in variance accounted for. Age and stressful events dropped out, but negative coping was a significant predictor. At Step 3, the addition of Supports variables resulted in a significant gain of 6% of accounted variance, for a total of 40%. In this final step, significant predictors of negative outcome came one from each domain: lower child's adaptive level, greater negative coping, and lower satisfaction with informal support.

**Table 7***Hierarchical Regression for Negative Outcomes in Canadian-Born Parents*

Model		B	SE. B	$\beta$	<i>T</i>	$R^2$	$\Delta R^2$
1	(Constant)	2.65	0.43	—	6.25*	.14	—
	Child age	0.05	0.02	.25	2.40*		
	Adaptive skill level	-0.19	0.10	-.20	-1.91		
	Stressful events	0.07	0.04	.21	2.01*		
2	(Constant)	2.13	0.70	—	3.05*	.34	.20
	Child age	0.03	0.02	.16	1.65		
	Adaptive skill level	-0.16	0.09	-.17	-1.75		
	Stressful events	0.03	0.03	.08	0.81		
	Positive coping	0.001	0.14	.001	0.01		
	Negative coping	0.62	0.18	.40	3.48*		
	Family hardiness	-0.12	0.11	-.12	-1.09		
3	(Constant)	3.06	0.81	—	3.80*	.40	.06
	Child age	0.03	0.02	.13	1.39		
	Adaptive skill level	-0.22	0.09	-.22	-2.35*		
	Stressful events	0.01	0.03	.04	0.38		
	Positive coping	-0.001	0.14	-.001	-0.006		
	Negative coping	0.56	0.17	.36	3.21*		
	Family hardiness	-0.07	0.11	-.07	-0.61		
	Satisfaction with informal supports	-0.31	0.11	-.31	-2.81*		
	Satisfaction with formal services	0.05	0.08	.07	0.59		

$F(2, 81) = 17.13, p = .02, *p < .05$

## Discussion

The purpose of this study was to compare immigrant and Canadian-born parents' holistic experiences of raising a child with ASD. The two groups did not differ in either positive or negative outcomes, suggesting that both groups experience similar overall impacts from raising a child with ASD. These results differ from those of Luthra (2018), who found that South-Asian mothers experienced higher levels of both negative and positive impacts compared to Canadian-born mothers. It should be noted that the present study has a multicultural sample (including South-Asians) that may contribute greater variability in cultural effects on negative and/or positive impacts.

There were also some differences in other domains of the Perry Model. Immigrant parents had children who required more support for independent living but used positive coping more than Canadian-born parents, which is similar to Luthra (2018)'s findings when comparing Canadian-born and South-Asian immigrant mothers. Immigrant parents reported having fewer sources of

informal social support but reported being more satisfied with those they had. Furthermore, the two groups received a similar number of formal services but, again, immigrant parents were more satisfied with those they had. This pattern of differences and increased usage of positive coping may help explain why negative outcomes did not differ between the parent groups despite immigrant parents experiencing more child-related stressors.

Some of our findings are consistent with other literature. We found that immigrant parents reported having a smaller informal social support circle than Canadian-born parents, which is in line with what Grace and colleagues (2016) found in a more general sample (not having a child with ASD). Perhaps, due to their smaller network of social support and more use of positive coping, immigrant parents can find more enjoyment through their supports and see the good in what they have. This is also consistent with Luthra (2018)'s findings for South-Asian immigrant mothers, which suggests that multicultural parents can draw from their religious and cultural backgrounds to use positive coping more effectively (Habib et al., 2017; Schlebusch & Dada, 2018). Higher family hardiness was also found to significantly predict greater positive outcomes in immigrant parents, which may be related to their experience in handling stressful events (including immigration perhaps).

Our findings are partially consistent with John et al. (2016)'s study where parents of children with disabilities were moderately satisfied with their informal social supports. They also reported that formal support satisfaction was strongly negatively associated with stress, which is at odds with our finding that satisfaction with formal supports was unrelated to negative outcomes for either parent group. Our results also differ from those of Millau and colleagues (2019), who found that quality of life ratings were lower in immigrant families of children with ASD compared to Canadian-born parents. The difference may be related to different samples and different constructs being measured. It should be noted that the current study did not include a measure of overall quality of life but focused on perceptions of the positive and negative impacts of having a child with ASD.

Regarding the regression analyses, we found that Stressors did not account for much of the variance, which adds support to the assumption behind the Perry Model that more domains need to be considered to fully conceptualize positive and negative outcomes (Perry, 2004). A large portion of the variance was accounted for when the Resources domain was added compared to Stressors and Supports, which would suggest that positive coping and family hardiness are the most important predictors of outcomes in both parent groups. However, low to moderate  $R^2$  values suggest more and/or different variables should be examined. Positive and negative outcomes may likely have different predictors, as suggested by our finding that there were no significant predictors of negative outcomes for immigrant parents compared to positive outcomes.

Several limitations of the study should be noted. First, the sample included mostly married mothers so there may be issues generalizing these results to fathers, single mothers, or other family constellations. Second, our definition of immigrants was based solely on being born outside Canada but most immigrant parents had been in Canada for more than 20 years on average. Thus, we cannot conclude the results would apply to more recent immigrants. We also do not have information regarding the diverse motivations behind immigration (e.g., refugees, family reunification, or job opportunities) or immigration status (e.g., permanent resident or awaiting approval), which may impact how stressors are experienced. Third, limitations are surrounding some of the measures. To measure the number of informal and formal supports,

parents were given a list of various sources and asked to indicate the ones they have received and how helpful they were. Thus, their satisfaction ratings could be based on different types of supports. Although there was good internal reliability for both parent groups, the measures are not published, standardized instruments. Additionally, the FICD measure does not consider parents of non-religious backgrounds and diverse family constellations, which may have influenced inaccurate ratings on items related to religion and marriage.

Future studies should ideally recruit an even more diverse sample in terms of education attainment, more fathers, parents in non-traditional family systems, more recent immigrant parents, and collect responses from both parents. Furthermore, future studies should consider exploring more variables that fit into the Perry Model domains to increase the  $R^2$  values in predicting positive and negative outcomes. For example, measures such as additional child variables (IQ and problem behaviours), parent mental health, marital satisfaction, as well as a better way to measure social supports should be considered. Additionally, longitudinal and qualitative analyses should be used alongside quantitative methods to capture an even more holistic picture of what parents experience.

Our results can aid clinicians in improving the outcomes of immigrant parents of children with ASD. Since immigrant parents tend to be satisfied with their informal and formal supports, clinicians can focus on other aspects to improve positive impacts, such as targeting child adaptive skills or further strengthening positive coping strategies and family hardiness. Additionally, the use of positive coping leading to more positive outcomes in immigrant parents can point clinicians to teaching parents how to use these coping strategies to improve positive outcomes. The ability to see the good despite their situation may also help parents to be more satisfied with their supports and decrease their reliance on negative coping strategies.

The current study demonstrates that, while immigrant parents are coping well with their situation, they have differing experiences than their Canadian-born counterparts, and thus, more research into this parent group is warranted. This is especially important considering the Canadian population since many are from immigrant backgrounds. All in all, immigrant and Canadian-born parent groups are more similar than different in their general experiences of raising a child with ASD, but both parent groups may benefit through greater understanding of immigrant parents.

### Key Messages

**People with disabilities:** Your experiences growing up, whether from an immigrant or Canadian-born family, should be recognized and understood.

**Professionals:** Helping to understand the differences of immigrant and/or Canadian-born families' experiences will help create and implement beneficial strategies.

**Policy makers:** Policies and support programs for families of children with ASD that consider the similarities and differences between immigrant and Canadian-born parents are important and can benefit both groups.

### **Messages clés**

**Personnes ayant une incapacité :** Vos expériences alors que vous grandissez, que vous fassiez partie d'une famille issue de l'immigration ou née au Canada, doivent être reconnues et comprises.

**Professionnels :** Aider à comprendre les différences entre les expériences des familles issues de l'immigration et/ou nées au Canada aidera à créer et à mettre en place des stratégies bénéfiques.

**Décideurs :** Les politiques et les programmes de soutien destinés aux familles d'enfants ayant un TSA qui tiennent compte des similitudes et des différences entre les parents issus de l'immigration et nés au Canada sont importants et peuvent bénéficier aux deux groupes.

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