

Resilience in the Face of Adversity: Family Processes and the Immigrant Paradox in Youth Externalizing Problems

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Résilience devant l'adversité: les processus familiaux et le paradoxe immigrant dans les problèmes d'externalisation des jeunes

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Abstract

Background: Despite increased exposure to social adversity, immigrant youth have fewer externalizing problems compared to non-immigrants. Explanations for this apparent advantage remain unclear. This study examined the extent to which socio-economic characteristics and family processes account for group differences in externalizing problems between immigrant and non-immigrant youth.

Methods: Data come from a population-based cross-sectional study of 1,449 youth and their primary caregiver in Hamilton, Ontario. Computer-assisted structured interviews were administered separately to primary caregivers and youth, which included assessments of externalizing problems and measures of family obligation, parental monitoring, value of education and socio-economic characteristics.

Results: First- and second-generation immigrant youth had lower levels of externalizing problems compared to non-immigrants. The magnitude of group differences was larger for parent ($d = 0.37-0.55$) versus youth reports of externalizing behaviours ($d = 0.15-0.29$). Family socio-economic and process characteristics partially accounted for group differences, which remained significant in the parent-reported model but rendered non-significant in the youth-reported model.

Conclusion: Results suggesting the potential protective effects of positive family processes for immigrant youth could be extended to non-immigrant youth to inform the development of parenting and family skills interventions. Promoting familial sources of resilience is a potential avenue for reversing downward trends in mental health seen across successive generations of immigrant youth, while also reducing risk of behavioural difficulties among non-immigrant youth.

Abrégé

Contexte: En dépit d'une exposition accrue à l'adversité sociale, les jeunes immigrants ont moins de problèmes d'externalisation comparé aux non-immigrants. Les explications de cet avantage apparent demeurent floues. La présente étude a examiné la mesure dans laquelle les caractéristiques socio-économiques et les processus familiaux comptent pour les différences de groupe en matière de problèmes d'externalisation entre jeunes immigrants et non-immigrants.

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Méthodes: Les données proviennent d'une étude transversale dans la population menée auprès de 1449 jeunes et de leurs principaux soignants à Hamilton, Ontario. Des entrevues structurées assistées par ordinateur ont été administrées séparément aux principaux soignants et aux jeunes, comprenant notamment des évaluations des problèmes d'externalisation et des mesures de l'obligation familiale, de la surveillance parentale, de la valeur de l'éducation et des caractéristiques socio-économiques.

Résultats: Les jeunes immigrants de la première et de la deuxième génération avaient des niveaux plus faibles de problèmes d'externalisation comparé aux non-immigrants. La magnitude des différences de groupe était plus grande pour les rapports de parents ($d = 0,37-0,55$) contre jeunes pour les comportements externalisants ($d = 0,15-0,29$). Les caractéristiques socio-économiques et des processus familiaux représentent partiellement les différences de groupe, qui demeuraient significatives dans le modèle rapporté par les parents mais qui devenaient non significatives dans le modèle rapporté par les jeunes.

Conclusion: Les résultats suggérant des effets protecteurs potentiels des processus familiaux positifs pour les jeunes immigrants pourraient être étendus aux jeunes non-immigrants pour éclairer le développement d'interventions du rôle de parent et des compétences familiales. Promouvoir les sources familiales de la résilience est une voie potentielle pour renverser les tendances vers le bas de la santé mentale aperçues dans les générations successives de jeunes immigrants, tout en réduisant le risque de difficultés comportementales chez les jeunes non-immigrants.

Keywords

immigrant paradox, postsecondary institutions, externalizing problems, multi-informant, family process, youth

Evidence from the US and Canada suggests that, on average, immigrant youth have similar or better mental health outcomes than non-immigrant youth despite increased exposure to poverty and social adversity – a pattern known as the “*immigrant health paradox*”.¹ Factors that might account for this apparent advantage remain unclear. Family context represents a fundamental setting that shapes youth mental health² and important differences have been documented between immigrant and non-immigrant families.³ Immigrant children and adolescents in Canada and the US are more likely to live in poverty than non-immigrants; however, they are also more likely to live in two-parent homes, have parents with higher education levels,⁴⁻⁶ and come from families with a higher sense of family obligation,^{7,8} parental monitoring⁹ and strong emphasis on educational attainment.¹⁰ While these characteristics have been examined as correlates of youth mental health, few studies have examined the extent to which they account for the immigrant health paradox. Identifying protective factors that buffer immigrant youth from the negative sequelae of living in poverty can inform the development of interventions to prevent the well-documented decline in mental health among immigrant youth across successive generations,¹¹ and extend to interventions for non-immigrant youth by targeting modifiable factors linked to better mental health outcomes.

In this study, we examined the extent to which family socio-economic characteristics (i.e., household income, parental education, family structure) and family processes (i.e., family obligation, parental monitoring, educational value) account for differences in externalizing problems between immigrant and non-immigrant youth. We use the term immigrant youth to refer to those born outside of Canada (i.e., first-generation

immigrant) and those born in Canada with at least one foreign-born parent (i.e., second-generation immigrant). Non-immigrant youth refer to those born in Canada to Canadian-born parents.

Community-based surveys in the US and Canada provide consistent evidence demonstrating lower levels of externalizing problems among first- and second-generation immigrant adolescents compared to non-immigrants.^{3,12-15} Externalizing problems refer to a group of outwardly directed behaviours, such as oppositionality and aggression,¹⁶ which are associated with poor mental health outcomes in adulthood.¹⁷ Prevalence estimates from the 2014 Ontario Child Health Study (OCHS), a provincially representative survey of child and youth mental health, indicate that 10.7% of children and youth aged 4–17 years meet *DSM-IV-TR* criteria for parent-reported externalizing disorders.¹⁸ While the 2014 OCHS data indicate lower prevalence of externalizing disorders among immigrant youth (5.7%) than non-immigrant youth (14.0%), immigrant youth are less likely to access needed mental health services.¹⁸ These findings highlight the importance of early prevention and outreach to address unmet mental health needs and reverse downward trends in immigrant youth mental health over time.^{11,18}

In contrast, European studies suggest increased risk of externalizing behaviours among immigrant youth.¹⁹ These divergent patterns may be partly attributable to different host country immigration policies and selection criteria that prioritize the acceptance of individuals who have increased potential for socio-economic integration.²⁰ Canada's points-based system evaluates individuals on six categories: age, sex, education, language proficiency, social capital, work experience and arranged employment.²¹ As a result, immigrant youth in Canada are more likely to have parents who have graduated from university and to live with two biological parents than their non-immigrant

counterparts—characteristics that are linked to positive family processes and youth mental health outcomes.^{5,6,22}

Despite higher levels of parental education, recent immigrant families are more likely to live in poverty, compared to non-immigrant families.²³ Differences in parental education and family structure may serve to protect immigrant youth and explain their apparent mental health advantage, given the known benefits associated with these family characteristics above and beyond economic circumstances. Parental education can affect youth externalizing problems via pathways associated with supportive relationships and parenting practices.²⁴ Parents and/or youth from immigrant backgrounds also report higher levels of family obligation, parental monitoring, and educational expectancies and values than non-immigrant families^{8,9,25} – all of which have been independently associated with lower levels of youth externalizing problems. Family obligation, which reflects values of support, assistance and respect towards family, can discourage youth from engaging in delinquent behaviours, especially among those who share their parents' beliefs and values.^{7,8,25} Similarly, parental monitoring is associated with lower levels of externalizing problems²⁶ and is often a primary target for interventions to reduce such problems in children and youth.²⁷ Finally, educational attainment is considered one of the most salient parenting goals in immigrant families.¹⁰ Educational values may contribute to academic motivation and achievement, which in turn, may deter youth from engaging in deviant behaviours.²⁸

Only a select number of studies have examined the extent to which family process characteristics account for the immigrant paradox in adolescent externalizing problems.²⁹⁻³² Findings from these studies demonstrate that family cohesion, support and parental warmth partly explain the positive mental health patterns among immigrant children and adolescents. There is also evidence suggesting that family obligation, parental monitoring and parental engagement in children's schooling contribute independently to mental health outcomes among immigrants.^{29,31-33} This study builds on previous research by focusing on the extent to which household income, family structure and parental education (as socio-economic characteristics), and perceptions of family obligation, parental monitoring and educational value (as family process characteristics), account for differences in externalizing problems between immigrant and non-immigrant youth based on independent assessments by caregivers and adolescents. Previous research has established independent associations between select family process characteristics and child mental health outcomes, but few have examined them collectively. Moreover, previous studies have relied on a single informant and have not examined results across different informants. The importance of using multiple informants in child and adolescent psychopathology is well-established as different reporters can provide additional perspectives on symptomatology and severity across contexts.³⁴ We examined parent and youth reports of

family processes and externalizing problems in separate models to examine similarities and differences in the patterns and strength of association among study variables.

Methods

Participants

Data for the study come from the Hamilton Youth Study (HYS), a cross-sectional, multi-informant population-based survey of 1,449 immigrant and non-immigrant youth in grades 5 through 8, and their primary caregiver, across 36 schools in Hamilton, Ontario. Hamilton has a large and diverse immigrant population, ranking fifth nationally and second in Ontario for its proportion of foreign-born population at 24.1%.³⁵

The HYS was designed to examine differences in levels of mental health problems among immigrant versus non-immigrant youth, and to identify risk and protective factors within the family, school, and neighborhood contexts that contribute to between-group differences. A stratified sampling design was applied at two levels (school, student) to ensure equal representation of schools with varying concentrations of immigrant students and equal representation of students from first- and second-generation immigrant backgrounds and non-immigrant students attending similar schools. The sample consisted of 31.1% non-immigrant youth ($n = 450$), 35.3% second-generation ($n = 511$) and 33.7% first-generation immigrant youth ($n = 488$). Youth were 9 to 15 years old ($M = 12.19$, $SD = 1.25$), and 52.1% were male.

Procedure

A letter was sent to families introducing the study and inviting their participation. Research staff contacted families who agreed to learn more about the study by telephone introducing the study, obtaining verbal consent and scheduling an interview. Youth provided assent and written consent was obtained from parents. Computer-assisted structured interviews were conducted separately with youth and parents at their home or school by trained, multi-lingual research interviewers. All instruments were translated into 8 languages (Arabic, Urdu, Spanish, Vietnamese, Serbian, Chinese, Tagalog and Somali) to ensure participation from families with limited proficiency in English.

Measures

Socio-Economic Characteristics. Socio-economic and demographic characteristics were obtained from youth (e.g., age, sex, race/ethnicity) and parents (e.g., household income, family structure, immigrant status). Items were adapted from the 'National Longitudinal Survey of Children and Youth'.³⁶ Adjusted household income was calculated using parental report of household income from all sources before taxes and deductions in the past 12 months, divided

by the square root of household size and converted to \$10,000 increments.

Family Obligation

Six items from the 'Attitudes Toward Family Obligations Scale'³⁷ were rated on a 5-point Likert scale, ranging from "1: strongly disagree" to "5: strongly agree", separately by parents and youth. Item responses were re-coded to range from 0 to 4. A sum score was created for each informant ranging from 0 to 24 ($\alpha=0.77$ for both informants). Parent and youth reports of family obligation were correlated at $r=0.14$ ($P < .001$).

Parental Monitoring

Six items from the 'Global School-Based Student Health Survey'³⁸ assessing the extent to which parents were aware of youth's activities and whereabouts were rated on a 5-point scale ranging from "1: never" to "5: always". Removing the item, "How often do you know who child's friends are?", increased internal consistency from 0.66 to 0.71 for parent reports and only marginally reduced internal consistency for youth reports from 0.74 to 0.73. Hence, we retained the remaining five items, recoded the item responses to range from 0 to 4, and summed items to create a total score ranging from 0–24. Parent and youth reports of parental monitoring were correlated at $r=0.25$ ($P < .001$).

Educational Value

Three items adopted from Fuligni et al.³⁹ were summed to create a total score assessing the value of education across informants. Items were rated on a 5-point Likert-type ("1: not at all important" to "5: extremely important"), re-coded to range from 0 to 4, and summed to create a total score ranging from 0–12 ($\alpha=0.83$ for parent report and $\alpha=0.73$ for youth report). Parent and youth reports on educational value were correlated at $r=0.26$ ($P < .001$).

Youth Externalizing Problems

Youth completed the Youth Self Report (YSR)/11–18 form, and parents completed the Child Behavior Checklist (CBCL)/6–18 form.⁴⁰ The CBCL derives empirically based syndrome scales measuring externalizing problems. Standardized t -scores ($M=50$, $SD=10$) were calculated based on a composite score of rule-breaking, oppositional-defiant and aggressive behaviour for each informant. The CBCL and YSR have been translated and validated across cultures, yielding good psychometric properties for the externalizing problems subscale.⁴¹ Parent- and youth-reported externalizing problems were moderately correlated ($r=0.30$, $P < .001$).

Analytic Plan

Two-level (school, student) linear regression models were conducted to account for the hierarchical structure of the data. Parent- and youth-reported study variables were examined in separate models using full information maximum likelihood (FIML) in Mplus version 7.11.⁴² Comparison between complete cases (93.4%) and those with missing data (6.6%) on variables included in the analytic models indicated no statistically significant differences. Sampling weights, calculated based on the probability of selection, were applied at both levels (school, student). Model 1 included youth demographic characteristics (age, sex, immigrant status). In Model 2, family socio-economic characteristics were added: adjusted household income, family structure (two biological parents, two parents –1 biological, single-parent) and parental education (high school, above or below Bachelor's degree). Educational value, family obligation and parental monitoring were added in Model 3. Continuous variables were grand-mean centred, and categorical variables were dummy-coded. Models were compared using the log likelihood-ratio test (Δ -2LL) and evaluated against a chi-squared distribution using the difference in the number of parameters in each successive model as degrees of freedom. Group differences were examined using ANOVAs and chi-square tests, as appropriate.

Results

Significant differences across immigrant and non-immigrant youth emerged for most study variables (see Table 1). While non-immigrant youth were more likely to come from families with a higher household income, youth from immigrant families were more likely to live in two-biological-parent homes and have parents with higher education levels. Levels of parent- and youth-reported sense of family obligation and educational values, and parent-reported parental monitoring were higher among immigrant youth than non-immigrant youth.

Parent-Reported Externalizing Problems

In Model 1, first- ($b=-5.34$, $SE=0.90$, $P < .001$) and second- ($b=-3.62$, $SE=0.83$, $P < .001$) generation immigrant youth had lower levels of parent-reported externalizing problems than non-immigrant youth (see Table 2). The multilevel regression coefficients are equivalent to 0.55 ($-5.34/SD_{pooled}$) and 0.37 ($-3.62/SD_{pooled}$) standard deviation (SD) units, respectively, and considered moderate in magnitude. In Model 2, the addition of family socio-economic characteristics improved model fit (Δ -2LL = 11,684.32, $df=5$, $P < .001$). Youth living in a single-parent family had higher levels of externalizing problems than youth living with both biological parents. In addition, youth whose parents had less than a Bachelor's degree had higher levels of parent-reported externalizing problems than youth whose parents had a Bachelor's degree or higher. The

Table 1. Sample Descriptive Characteristics.

	1st Generation Immigrant (n = 488)	2nd Generation Immigrant (n = 511)	Non-Immigrant (n = 450)	F or χ^2
Externalizing Problems (M, SD)				
<i>Youth-reported</i>	44.52 (10.39) _a	45.32 (9.68) _b	46.93 (9.54) _b	$F_{(2,1405)} = 5.33^{***}$
<i>Parent-reported</i>	43.64 (10.00) _a	45.24 (9.00) _b	48.42 (8.64) _c	$F_{(2,1398)} = 24.89^{***}$
Demographics				
Youth age (M, SD)	12.36 (1.25) _a	12.20 (1.29) _a	12.26 (1.19) _a	$F_{(2,1446)} = 1.50$
Youth sex (% male)	55.00 _a	44.60 _b	52.60 _a	$\chi^2_{(2)} = 7.70^*$
Youth Race (%)				$\chi^2_{(2)} = 703.31^{***}$
White	16.90 _a	36.10 _b	89.20 _c	
South Asian	20.40 _a	15.60 _a	0.20 _b	
East and Southeast Asian	15.20 _a	17.60 _a	2.40 _b	
Arabic and West Asian	19.20 _a	10.90 _b	0.20 _c	
Black	16.10 _a	13.00 _a	3.20 _b	
Hispanic	12.10 _a	6.80 _b	0.80 _c	
Aboriginal / Other	—	—	4.00	
Mean household income ¹	2.08 (1.65) _a	2.81 (1.61) _b	3.25 (1.46) _c	$F_{(2,1439)} = 52.93^{***}$
Parental education (%)				
High school or less	23.20 _a	22.00 _a	26.70 _a	$\chi^2_{(2)} = 90.97^{***}$
Below Bachelor's	16.20 _a	37.80 _b	44.80 _b	
Above Bachelor's	60.60 _a	40.20 _b	28.50 _c	
Family structure (%)				
2 biological parents	73.70 _a	73.00 _a	50.30 _b	$\chi^2_{(2)} = 54.76^{***}$
2 parents – 1 biological	5.60 _a	8.30 _a	14.80 _b	
Single parent	20.60 _a	18.70 _a	34.90 _b	
Family Process Characteristics (M, SD)				
<i>Youth-reported</i>				
Educational value	10.35 (2.09) _a	10.01 (2.07) _b	9.50 (1.79) _c	$F_{(2,1417)} = 17.32^{***}$
Sense of family obligation	19.83 (3.30) _a	19.23 (3.21) _b	18.74 (3.02) _b	$F_{(2,1416)} = 10.69^{***}$
Parental monitoring	18.07 (2.77) _a	17.89 (2.56) _a	17.86 (2.52) _a	$F_{(2,1415)} = 0.69$
<i>Parent-reported</i>				
Educational value	10.49 (2.31) _a	10.10 (1.81) _b	8.79 (1.81) _c	$F_{(2,1399)} = 61.34^{***}$
Sense of family obligation	19.57 (3.28) _a	18.98 (3.07) _b	17.87 (3.44) _c	$F_{(2,1398)} = 23.08^{***}$
Parental monitoring	19.47 (1.44) _a	19.30 (1.29) _b	18.99 (1.32) _b	$F_{(2,1401)} = 11.85^{***}$

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$.

Cells sharing the same letter subscript do not differ significantly.

¹Increments of \$10,000.

addition of family socio-economic characteristics resulted in reductions in the coefficients associated with first- and second-generation immigrant background, suggesting that these characteristics partially account for the association between immigrant background and externalizing problems. For example, the coefficient for first-generation immigrant background decreased 20% from Model 1 to Model 2 (–5.34 to –4.27, respectively). Comparable estimates for second-generation immigrant background were observed (–3.62 in Model 1 to –2.96 in Model 2, a reduction of 18%). Family process characteristics were added in Model 3 and contributed significantly to improvements in model fit (Δ -2LL = 18.484.03, $df=3$, $P < .001$). There was a negative association between parent-reported externalizing problems and levels of educational value and parental monitoring. A one-unit increase in parent-reported educational value and monitoring was associated with a decrease of –0.34 and –1.73 in externalizing problems, respectively. These family process characteristics contributed to a further reduction in the coefficients associated with first- (–4.27 to –2.93) and

second- (–2.96 to –2.13) generation immigrant background – a decrease of 31% and 28%, respectively, suggesting these family processes partially account for the association between immigrant background and externalizing problems.

Youth-Reported Externalizing Problems

First- ($b = -2.97$, $SE = 0.73$, $P < .001$) and second- ($b = -1.49$, $SE = 0.67$, $P < .05$) generation immigrant youth reported lower levels of externalizing problems than non-immigrant youth (see Table 3, Model 1). These differences are equivalent to 0.29 and 0.15 SD units, respectively. The addition of family socio-economic characteristics in Model 2 improved model fit (Δ -2LL = 11,693.98, $df=5$, $P < .001$) and was associated with a reduction in the coefficients for first- and second-generation immigrant background by 29% (–2.97 to –2.11) and 40% (–1.49 to –0.89), respectively, rendering the coefficient for second-generation immigrant youth no longer statistically significant. Youth living in

Table 2. Parent-Reported Model of Family Socio-Economic Characteristics, Family Processes and Youth Externalizing Problems (n = 1,449).

	Model 1 (b, SE)	Model 2 (b, SE)	Model 3 (b, SE)
<i>Fixed effects</i>			
Intercept	48.60 (0.82)***	45.92 (1.21)***	45.76 (1.07)***
Level 1			
Youth Demographic Characteristics			
Age	-0.04 (0.26)	-0.13 (0.26)	-0.44 (0.26)
Sex (male) ¹	0.15 (0.70)	0.09 (0.67)	-0.08 (0.62)
Immigrant status ²			
2nd generation	-3.62 (0.83)***	-2.96 (0.97)**	-2.13 (0.82)**
1st generation	-5.34 (0.90)***	-4.27 (1.11)***	-2.93 (0.99)**
Level 2			
Family Demographic Characteristics			
Household income		-0.28 (0.24)	-0.31 (0.22)
Parental education level ³			
Below Bachelor's degree		2.43 (0.92)**	2.46 (0.92)**
High school or less		1.77 (0.99)	1.61 (0.92)
Family structure ⁴			
Two parents – 1 biological		2.21 (1.16)	1.97 (1.10)
Single parent		2.45 (0.82)**	1.80 (0.78)*
Family Process Characteristics			
Educational value			-0.34 (0.16)*
Sense of family obligation			-0.02 (0.10)
Parental monitoring			-1.73 (0.30)***
<i>Random Effects</i>			
Level 2 (School)	4.37 (1.33) ***	3.03 (1.07)**	2.01 (0.80)**
Level 1 (Student)	85.34 (4.13)***	82.48 (3.93)***	76.62 (3.86)***
-2 X loglikelihood	20,364.01	32,048.34	50,532.37
Model comparison		Model 2 vs. Model 1	Model 2 vs. Model 3
$\Delta\Delta$ -2 X loglikelihood, $\chi^2_{(df)}$		11,684.32 ₍₅₎ ***	18,484.03 ₍₃₎ ***

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

Reference categories: ¹female; ²non-immigrant; ³Bachelor's degree and above; ⁴two biological parents.

single-parent families or families with one biological parent reported higher levels of externalizing problems than youth living with two biological parents. In Model 3, model fit improved (Δ -2LL = 19,953.14, $df = 3$, $P < .001$) with the addition of youth-reported family process characteristics. A one-unit increase in family obligation and parental monitoring was associated with a decrease of 0.59 and 1.24 in youth-reported externalizing problems, respectively. These family process characteristics contributed to a further reduction in the coefficients associated with first- (-2.11 to -1.01) and second- (-0.89 to -0.62) generation immigrant background – a decrease of 52% and 30%, respectively.

Discussion

Our findings are consistent with previous research demonstrating lower levels of externalizing problems among immigrant, compared to non-immigrant youth, across both parent and youth reports.^{3,12-14} Standardized mean differences revealed larger effect sizes for parent compared to youth reports. Family socio-economic and process characteristics partially accounted for differences in externalizing problems across immigrant and non-immigrant youth, although group differences remained significant in the parent reports.

Family structure and parental education were associated with youth externalizing problems, with significant group differences observed in the distribution of these characteristics. Compared to non-immigrant youth, immigrant youth were more likely to live in homes with two biological parents and have parents with university degrees. Parental monitoring was consistently associated with lower levels of externalizing problems across informants, while educational value was associated with parent reports and family obligation with youth reports. Immigrant youth and their parents reported higher levels of educational value and family obligation, while immigrant parents also reported higher levels of parental monitoring than did non-immigrants, suggesting these family processes may be contributing to between-group differences in externalizing problems.

Socio-Economic Characteristics

Our results are in line with evidence on the protective role of a two-parent family structure in child outcomes.⁴³ The prominent role of family structure was evident across both informants in our study, with youth living with both biological parents having lower levels of externalizing problems. Compared to non-immigrant youth, a higher proportion of

Table 3. Youth-Reported Model of Family Socio-Economic Characteristics, Family Processes and Youth Externalizing Problems (n = 1,449).

	Model 1 (b, SE)	Model 2 (b, SE)	Model 3 (b, SE)
<i>Fixed effects</i>			
Intercept	46.45 (0.72)***	44.32 (1.11)***	45.11 (0.87)***
Level 1			
Youth Demographic Characteristics			
Age	1.36 (0.32)***	1.25 (0.31)***	0.65 (0.26)*
Sex (male) ¹	1.08 (0.66)	1.00 (0.63)	-0.03 (0.57)
Immigrant status ²			
2nd generation	-1.49 (0.67)*	-0.89 (0.78)	-0.62 (0.72)
1st generation	-2.97 (0.73)***	-2.11 (0.93)*	-1.01 (0.83)
Level 2			
Family Demographic Characteristics			
Household income		-0.31 (0.24)	-0.25 (0.19)
Parental education level ³			
Below Bachelor's degree		1.54 (0.81)	0.77 (0.63)
High school or less		0.52 (1.07)	0.66 (0.96)
Family structure ⁴			
Two parents – 1 biological		3.83 (1.18)***	3.37 (1.03)***
Single parent		2.35 (0.96)*	1.55 (0.76)*
Family Process Characteristics			
Educational value			-0.23 (0.22)
Sense of family obligation			-0.59 (0.08)***
Parental monitoring			-1.24 (0.10)***
<i>Random Effects</i>			
Level 2 (School)	4.34 (1.12)***	3.81 (1.08)***	2.55 (0.83)**
Level 1 (Student)	92.86 (4.29)***	89.99 (4.17)***	71.92 (3.70)***
-2 X loglikelihood	20,489.32	32,183.30	52,136.44
Model comparison		Model 2 vs. Model 1	Model 2 vs. Model 3
$\Delta\Delta$ -2 X loglikelihood, $\chi^2_{(df)}$		11,693.98 ₍₅₎ ***	19,953.14 ₍₃₎ ***

*p < .05, **p < .01, ***p ≤ .001.

Reference categories: ¹female; ²non-immigrant; ³Bachelor's degree and above; ⁴two biological parents.

first- and second-generation immigrant youth in our sample lived with both biological parents – a pattern supported by prior studies.⁴ The association between living in a two-parent home and lower levels of youth externalizing problems may potentially arise as a result of increased parenting resources and supports that are shared between parents.⁴⁴

Parental education was a significant correlate of youth externalizing problems in the parent reports only, which is in line with earlier findings demonstrating associations between parental education – especially maternal education – and child mental health.⁴⁵ Similar to the patterns observed for family structure, immigrant parents were more likely to have completed higher education than non-immigrants. Together, the mental health advantage observed among immigrant youth may be partially accounted for by the selection criteria of family- and economic-class immigrants who have increased potential for psychosocial integration in Canada. Linkages among family characteristics used to select immigrants in Canada, such as parental education, and family processes, such as educational values, may help explain why youth from immigrant backgrounds have lower levels of externalizing problems despite greater exposure to poverty.²²

Family Processes

Consistent with previous research,⁴⁶ parental monitoring was protective against externalizing behaviours. Parent reports of parental monitoring, educational value and family obligation were higher among immigrant families and partially accounted for differences between immigrant and non-immigrant youth in levels of externalizing problems. Educational value can play a buffering role in immigrant families due to its incorporation as a parenting practice.¹ Educational attainment may represent an important childrearing goal among parents that can prevent behaviour problems by focusing on academic performance. We also found mean differences in youth self-reports of family obligation and educational value, with immigrant youth consistently reporting higher levels (Table 1). Increased family obligation was associated with lower levels of youth-reported externalizing problems. Increased family obligation may be indicative of reciprocated respect and endorsement of family values to maintain closeness upon resettlement and may deter immigrant youth from engaging in disruptive behaviours.

Informant Effects

The differences in levels of externalizing problems between immigrant and non-immigrant youth were moderate in magnitude for parent report (first-generation $d=0.55$ and second-generation immigrant $d=0.37$), and smaller for youth self-reports ($d=0.29$ and $d=0.15$, respectively). Inter-informant differences in associations between family obligation and educational value, and externalizing problems suggest that the mechanisms underlying these associations may differ for parents and youth. Youth who internalize a sense of family obligation may feel more connected to and supported by their family, which in turn may protect against externalizing problems,³¹ while parents who endorse strong family obligation values may be more attuned to instances of their children behaving in contravention of such values. Consistent with previous research,^{1,10} study results showed that immigrant parents and youth reported higher levels of educational value than non-immigrants; however, only parent reports were significantly associated with externalizing problems after adjusting for family socio-economic characteristics and other family processes. Bivariate correlations between educational value and externalizing problems were similar in magnitude across informants ($r=-0.172$ for parents and $r=-0.192$ for youth). Thus, differences in statistical significance across informants in the adjusted associations between educational values and externalizing problems are likely due to the additional covariates in the regression models and differential patterns of shared variance across informants. Extant research typically includes only youth reports of these family process characteristics, thus limiting opportunities for investigating whether and how these associations with youth externalizing behaviours may vary by informant. Observed inter-informant differences highlight the importance of routinely using multiple informants in research and clinical practice to investigate potential sources of variability and avoid misestimation of mental health correlates.⁴⁷

Strengths and Limitations

The stratified sampling approach resulted in a representative sample of immigrant and non-immigrant families living in similar socio-economic conditions, strengthening the generalizability of findings. As our sample included youth aged 9 to 15 years, studies with older youth are needed to examine the protective role of family context and the robustness of the immigrant health paradox across an extended range of externalizing behaviours (e.g., delinquency) and taking influences outside of the family (i.e., peer group) into account. Future research should examine the role of peer processes (i.e., peer norms) given their contribution to youth externalizing behaviour, as well as evidence of differences in peer processes between immigrant and non-immigrant youth.⁴⁸

We were unable to examine associations among specific ethno-cultural groups within different immigrant generation

levels due to insufficient numbers across classifications of race/ethnicity. The ethnic distribution of our sample reflects that of the general population in Canada, but a future focus on targeted sample selection based on ethno-cultural groupings will help identify specific family process characteristics that may be distinct across groups. Finally, the cross-sectional nature of the data precludes inferences regarding causality and directionality. Greater focus on longitudinal and intervention studies employing experimental designs is needed to clarify the nature and directionality of associations observed.

Conclusion

The results suggest that a combination of family socio-demographic and process characteristics may contribute, in part, to the mental health advantage evident among immigrant youth in Canada despite greater exposure to family poverty. While certain characteristics, such as parental education, are linked to immigration policies that favour the selection of families with potential for socio-economic integration, others may be targets for intervention for both immigrant and non-immigrant youth and parents. Study results highlighting the potential protective effect of positive family processes for immigrant youth can be extended to inform the development of parenting and family skills interventions for both immigrant and non-immigrant families. By promoting these familial sources of resilience, there is potential to reverse the downward trends in mental health seen across successive generations of immigrant youth, while also reducing risk of behavioural difficulties among non-immigrant youth.

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Supplemental Material

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References

1. Marks AK, Ejese K, García Coll C. Understanding the U.S. Immigrant paradox in childhood and adolescence. *Child Dev Perspect.* 2014;8(2):59-64.
2. Repetti RL, Taylor SE, Seeman TE. Risky families: family social environments and the mental and physical health of offspring. *Psychol Bull.* 2002;128(2):330-366.
3. Kouider E, Koglin U, Petermann F. Emotional and behavioral problems in migrant children and adolescents in American countries: a systematic review. *J Immigr Minor Health.* 2015;17(4):1240-1258.
4. Hernandez DJ, Cervantes WD. Children of immigrant families: Ensuring opportunity for every child in America. First Focus, Foundation for Child Development, USA, 2011.
5. Lee SM, Edmonston B. Canada's immigrant families: growth, diversity and challenges. Population change and lifecourse strategic knowledge cluster discussion. Paper series, 1, Article 4. 2013. Retrieved from: <https://ir.lib.uwo.ca/pclc>
6. Statistics Canada. Census in brief: portrait of children's family life in Canada in 2016. Catalogue no. 98-200-X2016006 ISBN 978-0-660-09107-5; 2017.
7. Hardway C, Fuligni AJ. Dimensions of family connectedness among adolescents with Mexican, Chinese, and European backgrounds. *Dev Psych.* 2006;42(6):1246-1258.
8. Phinney JS, Ong A, Madden T. Cultural values and intergenerational value discrepancies in immigrant and non-immigrant families. *Child Dev.* 2000;71(2):528-539.
9. Chao R, Kanatsu A. Beyond socioeconomic: explaining ethnic group differences in parenting through cultural and immigration processes. *Applied Dev Sci.* 2008;12(4):181-187.
10. Kao G. Parental influences on the educational outcomes of immigrant youth. *Int Migr Rev.* 2004;38(2):427-449.
11. Georgiades K, Paksarian D, Rudolph KE, Merikangas KR. Prevalence of mental disorder and service use by immigrant generation and race/ethnicity among U.S. Adolescents. *J Am Acad Child Adolesc Psychiatry.* 2018;57(4):280-287.e2.
12. Chun H, Mobley M. The "immigrant paradox" phenomenon: assessing problem behaviors and risk factors among immigrant and native adolescents. *J Primary Prevent.* 2014;35(5):339-356.
13. Georgiades K, Boyle MH, Duku E, Racine Y. Tobacco use among immigrant and non-immigrant adolescents: individual and family level influences. *J Adolesc Health.* 2006;38(4):443.e1-443.e7.
14. Salas-Wright CP, Vaughn MG, Schwartz SJ, Córdova D. An "immigrant paradox" for adolescent externalizing behavior? Evidence from a national sample. *Soc Psychiatry Psychiatr Epidemiol.* 2016;51(1):27-37.
15. Tilley JL, Huey SJ, Farver JM, Lai MHC, Wang CX. The immigrant paradox in the problem behaviors of youth in the United States: a meta-analysis. *Child Dev.* 2021;92(2):502-516.
16. Achenbach TM, Ivanova MY, Rescorla LA, Turner LV, Althoff RR. Internalizing/externalizing problems: review and recommendations for clinical and research applications. *J Am Acad Child Adolesc Psychiatry.* 2016;55(8):647-656.
17. Reef J, Diamantopoulou S, van Meurs I, Verhulst FC, van der Ende J. Developmental trajectories of child to adolescent externalizing behavior and adult DSM-IV disorder: results of a 24-year longitudinal study. *Soc Psychiatry Psychiatr Epidemiol.* 2011;46(12):1233-1241. doi:10.1007/s00127-010-0297-9
18. Georgiades K, Duncan L, Wang L, Comeau J, Boyle MH. Six-Month prevalence of mental disorders and service contacts among children and youth in Ontario: evidence from the 2014 Ontario child health study. *Can J Psychiatry.* 2019;64(4):246-255.
19. Dimitrova R, Chasiotis A, van de Vijver F. Adjustment outcomes of immigrant children and youth in Europe: a meta-analysis. *Eur Psychol.* 2016;21(2):150-162.
20. Cunningham S, Ruben JD, Venkat Narayan KM. Health of foreign-born people in the United States: a review. *Health Place.* 2008;14(4):623-635.
21. Grubel H. Canada's immigration selection policies: recent record, marginal changes, and needed reforms. *Studies in Immigration Policy, Frazer Institute,* 2013.
22. Davis-Kean PE, Tang S, Waters NE. Parent education attainment and parenting. In: *Handbook of parenting: biology and ecology of parenting, Vol. 2, 3rd ed.* New York, NY, US: Routledge/Taylor & Francis Group; 2019, p. 400-420.
23. Statistics Canada. Immigration, low income and income inequality in Canada: what's new in the 2000s? Analytica studies branch research paper series. Catalogue no. 11F0019M — No. 364 ISBN 978-1-100-25359-6; 2014.
24. Reiss F. Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. *Soc Sci & Med.* 2013;90:24-31.
25. van Geel M, Vedder P. The role of family obligations and school adjustment in explaining the immigrant paradox. *J Youth Adolesc.* 2011;40(2):187-196.
26. Lac A, Crano WD. Monitoring matters: meta-analytic review reveals the reliable linkage of parental monitoring with adolescent marijuana use. *Perspect Psychol Sci.* 2009;4(6):578-586.
27. Piquero AR, Jennings WG, Diamond B, et al. A meta-analysis update on the effects of early family/parent training programs on antisocial behavior and delinquency. *J Exp Criminol.* 2016;12(2):229-248.
28. Ceballos R, Maurizi LK, Suarez GA, Aretakis MT. Gift and sacrifice: parental involvement in Latino adolescents' education. *Cultur Divers Ethnic Minor Psychol.* 2014;20(1):116-127.
29. Mood C, Jonsson JO, Låftman SB. Immigrant integration and youth mental health in four European countries. *Europ Soc Rev.* 2016;32(6):716-729.
30. López-Rodríguez L, Navas M, Cuadrado I, Tatar M. Adjustment outcomes of native and immigrant youth in Spain: a mediation model. *Span J Psychol.* 2018;21:E19.
31. Telzer EH, Gonzales N, Fuligni AJ. Family obligation values and family assistance behaviors: protective and risk factors

- for Mexican–American adolescents’ substance use. *J Youth Adolesc.* 2014;43(2):270-283.
32. Prado G, Huang S, Schwartz SJ, et al. What accounts for differences in substance use among U.S.-born and immigrant hispanic adolescents? Results from a longitudinal prospective cohort study. *J Adolesc Health.* 2009;45(2):118-125.
33. Mood C, Jonsson JO, Låftman SB. The mental health advantage of immigrant-background youth: the role of family factors. *Fam Relat.* 2017;79(2):419-436.
34. De Los Reyes A, Augenstein TM, Wang M, et al. The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychol Bull.* 2015;141(4):858-900.
35. Census Profile, 2016 Census - Hamilton, City [Census subdivision], Ontario and Hamilton, Census division [Census division], Ontario. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3525005&Geo2=CD&Code2=3525&Data=Count&SearchType=Begins&SearchPR=01&B1=All>
36. Statistics Canada (2010). National Longitudinal Survey of Children and Youth (NLSCY), Cycle 8, Microdata User Guide.
37. Fuligni AJ, Tseng V, Lam M. Attitudes toward family obligations among American adolescents with asian, latin American, and european backgrounds. *Child Dev.* 1999; 70(4), 1030-1044.
38. Brown BB, Mounts N, Lamborn SD, Steinberg L. Parenting practices and peer group affiliation in adolescence. *Child Dev.* 1993;64(2):467.
39. Fuligni AJ, Witkow M, Garcia C. Ethnic identity and the academic adjustment of adolescents from Mexican, Chinese, and european backgrounds. *Dev Psych.* 2005;41(5):799-811.
40. Achenbach T, Rescorla LA. Manual for the ASEBA school-age forms & profiles. Burlington, VT: University of Vermont, Research Centre for Children, Youth and Families; 2001.
41. Achenbach TM, Rescorla LA. Multicultural supplement to the manual for the ASEBA school- Age forms & profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families;2007.
42. Muthén LK, Muthén BO. Mplus user’s guide, 6th ed. Los Angeles, CA: Muthén & Muthén; 1998-2010.
43. Jenkins J. Psychosocial adversity and resilience. In: Rutter M, Bishop DVM, Pine DS, et al., eds. Rutter’s child and adolescent psychiatry 5th edn. Oxford, England: Blackwell Publishing Ltd.; 2010. p. 377-391.
44. Crosnoe R, Cavanagh SE. Families with children and adolescents: a review, critique, and future agenda. *J Marriage Fam.* 2010;72(3):594-611.
45. Meyrose A-K, Klasen F, Otto C, Gniewosz G, Lampert T, Ravens-Sieberer U. Benefits of maternal education for mental health trajectories across childhood and adolescence. *Soc Sci Med.* 2018;202:170-178. doi:10.1016/j.socscimed.2018.02.026
46. Pettit GS, Laird RD, Dodge KA, Bates JE, Criss MM. Antecedents and behavior-problem outcomes of parental monitoring and psychological control in early adolescence. *Child Dev.* 2001;72(2):583-598.
47. Collishaw S, Goodman R, Ford T, Rabe-Hesketh S, Pickles A. How far are associations between child, family and community factors and child psychopathology informant-specific and informant-general? *J Child Psychol Psychiatry.* 2009;50(5):571-580.
48. Prado G, Huang S, Schwartz SJ, et al. What accounts for differences in substance use among U.S.-born and immigrant hispanic adolescents?: results from a longitudinal prospective cohort study. *J Adolesc Health.* 2009;45(2):118-125.