Early Years Development and Equity: The Impact of Socioeconomics on Children's School Readiness

Federico Cartín-Arteaga
Region of Peel

Seema Taneja
Success By 6 Peel

Why income early in childhood appears to matter more for achievement than for behavior may be due to the importance of school readiness in determining the course of schooling for children. Income poverty has a strong association with a low level of preschool ability, which is associated with low test scores later in childhood as well as grade failure, school disengagement, and dropping out of school, even when controls for family characteristics such as maternal schooling, household structure, and welfare receipt are included. - Duncan et. al, 1998. p. 420.

Discussions regarding poverty have resurfaced with the recent downturn in the global economy. Not long ago, back in 1989, Canada's House of Commons unanimously vowed to eradicate poverty by the year 2000 from its then 15.1% rate[1]. Not only was there no improvement, but the rate increased to 18.1% in 2000 (Community Foundations of Canada, 2008). According to Statistics Canada's 2006 Census, children living below the after-tax low-income cut-off (LICO-AT) rate hovered at 15.8%, higher than the rate that was to be eliminated.

Canadian provinces have increasingly joined the effort to address the issue of poverty. Most recently, the Province of Ontario adopted its own anti-poverty strategy that aims to reduce child poverty rates by 25% in five years (Ministry of Children and Youth Services, 2008). Ontario has fittingly decided to monitor the low-income measure (LIM), due in part to the fact that poverty rates for children are higher when using the LIM indicator (23.1% in 2006) as opposed to the after-tax LICO indicator (ibid.).

The Canadian state of affairs is increasingly complex considering it has one of the highest proportions of foreign-born residents in the world (19.8% in 2006), a figure that is at its highest in 75 years and second only to Australia (Chui et al., n.d.). Coincidentally, this trend brings about a higher percentage of visible minorities: 16.2% in 2006, compared to 4.1% in 1981. Furthermore, Canada's economy relies heavily on immigrants to expand its much needed work force. This pattern will continue to add a diverse population that will require adequate and sound policy for inclusion.

The poverty phenomenon is inextricably linked to rising inequalities. Over the last decade, the top 10% of income earners saw a 25% increase in their after-tax household income when compared to the same group a generation ago (1970's). The top 1% of income earners doubled their share of wages from 5% to 10% since the 1980's (Yalnizyan, 2009. P. 2). This empirical evidence suggests that the disproportionate rise among income groups is directly related to the recent shift to a knowledge-based economy where human talent has become the prevalent economic driver over the traditional factor of labour and capital input. This change has less to do with fiscal policy -in fact, the redistributive effect of Canada's taxation system has augmented compared to the late 1970's-, and some argue that it is mostly a response to the shift from "routine-oriented" to "judgement-oriented" jobs (Martin, 2009).

[1] After-tax low-income cut-off (LICO-AT) for children (0-17 years of age).

Few, if any, would argue that education is the driving force behind the unprecedented leap forward in income earnings and overall improvement in the levels of quality of life we have witnessed across the globe. There is also a general consensus that those left behind in the classroom are less likely to achieve higher future remuneration and increase their upward mobility. However, identifying the factors that shape a students ability to perform well in school have been far more contentious. To what extent do factors such as race, immigration status, or poverty matter in early child development and therefore, in setting a strong foundation for future learning and career success?

A recent study surveying 95,000 parents of Toronto elementary students reveals that students living in poverty or from certain racial backgrounds "are falling behind in school as early as Grade 3" (Rushowy, 2009). Furthermore, racial background seems to have more of an impact than low income does with regards to student provincial test scores on reading, writing, and math abilities. The Toronto-based Colour of Poverty Campaign has found a correlation between racial make-up (visible minorities) and poverty. According to their Ontario-based research, 32% of children in "racialized" families, and 47% of children in recent immigrant families live in poverty (Colour of Poverty, n.d.).

This report aims to explore the potential relationship between early child development and poverty for visible minorities and recent immigrants in Peel Region. The research presented in this paper attempts to identify children under the age of six who are less likely to be ready for school entry as measured by the Early Development Instrument (EDI). This analysis will assist Peel Region service providers and decision-makers to identify groups of children who are more likely to face challenges in their school readiness and, therefore, in need of targeted services and supports.

Background

Many academics have studied the links between educational performance and attainment and demographics. For one, Duncan et al. argue that socioeconomics impacts the school performance of the youngest the most:

"…the childhood stage at which income was measured was clearly significant. Family economic conditions in early and middle childhood appeared to be far more important for shaping ability and achievement than were economic conditions during adolescence. (...) Left unanswered in these and all other analyses is the importance for adolescent and early-adult outcomes of family economic conditions in the earliest stages of childhood (P. 408)."

In a study on the roles of childcare and parent-child interaction quality, Connell and Prinz found that "[l]ow-income and African American children are at increased risk for school readiness deficits in terms of both cognitive and social development" (P. 177). The authors argue that children from lower income backgrounds were prone to be less well prepared than their peers from more advantaged backgrounds. African Americans tended to be at particular risk because of the social and economic disparities affecting these groups.

Several studies reveal that immigrants and visible minorities face larger barriers to successfully incorporating themselves in the Canadian labour market. Additionally, some studies have focused on the children of immigrants (whether first or second generation Canadian). Although in many instances immigrants' children fair as well or better than their Canadian counterparts, some groups -blacks and Latinos principally- have been found to fair less positively (Corak, 2008).

Duncan et. al. warn against establishing a direct relationship between income levels and child development:

"Suppose, for example, that the mental health of parents is the key ingredient for children's success and that measures of parental mental health were not included in the models. Because positive mental health in parents is likely to make parents more successful in the labor market as well as to lead to fewer problems with their children, the absence of adjustments for differences in parental mental health may produce a serious overstatement of the role income plays in causing children's success" (p.409).

Several studies find that early child development issues occur more with children living in poverty (Flouri, 2001; Richter, 2003; Rutter, 2003). There are two well-known frameworks that attempt to explain the relationship between poverty and early child development problems: (a) social cohesion and (b) social causation. The social cohesion perspective suggests that some individuals may be predisposed to both lower levels of ambition and expectations and, therefore, to mental health challenges. Consequently, individuals attain a lower level of education and occupational achievement, thus leading to a drift towards poverty and mental health issues.

Alternatively, social causation implies that the social experience of individuals who are poor increases the likelihood that they may develop mental health troubles (Eaton & Muntaner, 1999). Poverty may also increase the risk of exposure to chronic or traumatic stress. When combined with a genetic predisposition, such factors may contribute to the development of mental health challenges. This suggests that if one addresses the social causation and social determinants of mental health through prevention programs, mental health can be promoted and some mental health problems in disadvantaged populations can be prevented (Eaton & Muntaner, 1999).

Prevention science is one way of addressing the adverse consequences of poverty. The focus of the prevention programs is on building children's social competencies and support to help children cope with and overcome poverty. However, this person-centred approach is limited in scope. There is no attempt to directly address the issue of poverty, which is one of the root causes of children's mental health problems. Alternatively, social policy could be aimed at reducing poverty through income supports and tax and transfer policies (Peters et al., 2001). To reduce children's mental health challenges, researchers support the need for not only mental health prevention policies but also anti-poverty policies and programs (e.g., Conroy & Brown, 2004; Febbraro, 1994). As stated by Peters et al. (2001), focusing on poverty-reduction policies, such as income supports or tax and transfer policies, may lead to a reduction in mental health challenges in preschoolers.

It is clear that factors such as poverty and race play a role in educational performance, attainment and upward social mobility. Past literature seems to indicate that these socioeconomic factors may well affect school readiness. Given that school readiness is a strong predictor of future academic achievement, it is vital for the Region of Peel to gain a clearer understanding of how to better support its young.

Demographics in Peel Region

Few jurisdictions in Canada are as diverse as Peel Region. The region is a second-tier municipality comprised of the cities of Brampton and Mississauga and the Town of Caledon. Located immediately west of the City of Toronto and housing the largest airport in Canada, the story of immigration is no coincidence and comes as no surprise. With 23% of all immigrants in the Greater Toronto Area (GTA), Peel rivals Toronto when comparing the proportion of total immigrants as a percentage of its total population (48.4% to 49.4%). Table 1 details the contribution of total and recent immigrants to Peel's total population figures according to the most recent census (2006). In concert with the immigration phenomenon of an increasingly diverse population of immigrants, the proportion of visible minorities has also increased in Peel over the past years (see Table 2).

Table 1: Total and recent immigrants in Peel 2006

	Total Immigrants	Total Immigrants as a Percentage of Population	Recent Immigrants (Immigrated 2001 - 2006)	Recent Immigrants as a Percentage of Population
Region of Peel	561,240	48.63%	118,220	10.24%
City of Brampton	206,185	47.78%	42,890	9.93%
Town of Caledon	11,805	20.77%	520	0.91%
City of Mississauga	343,245	51.56%	74,810	11.24%

Source: Peel Data Centre (Census Canada 2006).

Table 2: Visible Minorities in Peel 2006

	Total Population	Total Visible Minorities	Visible Minorities as a Percentage of Population
Region of Peel	1,159,405	576,665	49.74%
City of Brampton	433,806	246,145	56.74%
Town of Caledon	57,050	4,090	7.17%
City of Mississauga	668,549	326,425	48.83%

Source: Peel Data Centre (Census Canada 2006).

The aforementioned trends have not only brought an unparalleled population growth (approximately 93 people per day) to Peel but have also created additional challenges with respect to the provision of social services to these groups. The competitive advantage that Canada's multicultural ethos brings to the economy also brings complex challenges with respect to finding ways to ensure equitable opportunity for all to thrive.

Peel, as a whole, has approximately 91,000 children under the age of six[2], with nearly one in five (19.8%) living under the before tax low-income cut-off (LICO-BT). To add to this alarming situation, poverty rates among children under the age of six have been rising over the past decade. The Peel Children's Aid Society executive director, Paul Zarnke, reported to Peel Regional Council that the number of children living in poverty has increased 51% since 1997 (Criscione, 2009). Table 3 compares LICO-BT from the 2001 and 2006 Census.[3] In just five years, the percentage of children living under LICO-BT increased by almost 6%, up to about 18,000 children.

Table 3: Peel Before Tax Low Income Cut-Offs (LICO) for Children Under Six Years of Age

	LICO 2000	LICO 2005	Change
Peel	14.1%	19.8%	5.7%
Mississauga	15.8%	21.6%	5.8%
Brampton	12.7%	19.3%	6.6%
Caledon	4.3%	4.1%	-0.2%

[2] Figure excludes Census undercount.

[3] Income data for 2000 and 2005 respectively.

Source: Peel Data Centre (Census Canada 2006).

As if these low-income rates were not disconcerting enough, the rates for recent immigrant and visible minority children are even higher (48% and 25%, respectively). The percentage of recent immigrant children less than 6 years of age living below LICO has almost doubled since 1980 (Census Canada 1981 and 2006).

Table 4: Peel Recent Immigrant and Visible Minority Children Under Six Years of Age

	2006	LICO-BT 2005
Total Children	**90,745**	**19.8%**
Total Recent Immigrant Children	**5,580**	**48%**
% Recent Immigrant Children	*6.1%*	*n/a*
Total Visible Minority Children	**55,760**	**25%**
% Visible Minority Children	*61.4%*	*n/a*

Source: Peel Data Centre (Census Canada 2006).

Measuring School Readiness

The Region of Peel uses the Early Development Instrument (EDI) as a proxy to monitor school readiness. The EDI, developed by the Offord Centre for Child Studies at McMaster University, is a teacher-completed, community-based population measure. As such, its results are reported by different levels of geography (i.e. neighbourhood, ward, municipality, etc.). The EDI is comprised of five developmental domains that represent the critical components of child development:

1. Communication and general knowledge
2. Emotional maturity
3. Language and cognitive development
4. Physical health and well-being
5. Social competence

Children who score below the 10th percentile in one or more EDI domains are considered to be "not on track". These children may be most vulnerable to the challenges in starting school, which could impact their achievement of school success. On the other hand, children who score above the 75th percentile in one or more EDI domains are considered to be "on track". These children are expected to have few difficulties in their readiness for school (see Table 5).

Table 5: Percent of Children Not on Track and On Track in Peel and Area Municipalities, 2007 EDI*

	Peel	Brampton	Caledon	Mississauga
% Not on Track (on one or more domains)	26%	29%	20%	25%
% On Track (on one or more domains)	58%	54%	70%	60%

*Percentages may not add up to 100% as only children who fall in the bottom or top percentile cut-points are presented.
Source: Success By 6 Peel. Early Development Instrument Bulletin, 2007.

Early Year Policy and Support in Peel Region

Early childhood prevention programs are typically divided into two major categories: centre-based programs and family-based programs. The former focuses mainly on the child, while the latter tends to focus on parents and families. It should be noted however, that there is considerable overlap between the two major types of programs.

Ontario Early Years Centres (OEYC): An example of centre-based programs for children in Peel

The principles upon which the Ontario Early Years Centres (OEYCs) were established lie in the recommendations outlined in the 1999 Early Years Study (McCain & Mustard, 1999). This study outlines a variety of strategies that can improve the state of healthy child development such as supporting healthy parental interactions, increasing paternal and maternity leave and benefits, and developing community information networks.

McCain and Mustard envisioned a community-based approach to the creation of the centres. In this study, there is a clear underlying view that child development programs are attributable to both person-centred and social environmental factors. The central problem identified by this study is the lack of adequate brain stimulation in the healthy development of children. The authors asserted that "this new evidence [early brain development] expands our understanding of how nurturing [positive stimulation] by parents in the early years has a decisive and long-lasting impact on how people develop…' (p.5). Positive parental interactions early on in life are crucial in setting the foundation for competence, positive coping skills, good health and quality of life, and success in the labour market later on in life.

The impact of changing social environmental factors on the healthy development of children is also considered a strong factor: "[h]ow economies create and distribute wealth affects early childhood, and early child development affects the health and competence of populations throughout the life cycle" (McCain & Mustard, 1999, p. 53). These outcomes focus on values for collective well being as they emphasize an equitable distribution of wealth and power. Socioeconomic inequalities are indeed discussed in the study in terms of supporting the need for universal programming. Furthermore, McCain and Mustard also advocate for increased maternal and paternal leave and benefits, family-friendly workplaces, and tax incentives to private sectors to engage in creating early child development and parenting centres across Ontario.

Another major theme in both the 1999 and 2007 McCain and Mustard reports is the idea that an early investment by all – government, private and community sectors of society - in children's lives will pay off, resulting in a population of individuals with better competence and coping abilities. This early intervention is deemed to be much more cost-effective than paying for rehabilitation or remediation services later in life. In fact, there is evidence that a dollar invested in early prevention programs saves seventeen dollars in treatment costs (McCain & Mustard, 2007). Inadequate brain stimulation is rooted in the lack of services and supports for all parents, caregivers, and children. Ensuring that access to centres is universal, meaning the programs should be available and accessible to families of all backgrounds and income levels, is a key component of their message.

There is also research that supports the need for universal programming. McCain and Mustard note that there is no socioeconomic threshold above which all children do well. From their observations, as one goes up the socioeconomic ladder, children seem to have fewer and fewer learning or behavioural issues. They note, however, that at each socioeconomic level, from the highest to the lowest, families and children still experience a number of difficulties. McCain and Mustard describe this phenomenon as a gradient – more families at the lowest level have problems and few families at the highest

socioeconomic level are faced with issues. Because of the size of the middle class, the largest number (rather than the highest percentage) of children with serious difficulties are in moderate-income families. Therefore, since all are faced with varying difficulties, the need for universal programming is understandable and potentially beneficial.

The knowledge that positive stimulation gives way to strong neural development in children is the foundation of the OEYCs as parents learn how to positively stimulate their child during critical periods, children get the opportunity to engage in play-based problem solving with other children, and activities focus on parents interacting with their children. The programs were intended and mandated as universal programs accessible and available to all. However, due to the limited funding available and the high interest that all programs in Peel have generated, there are wait lists for programs and services at centres.

Moreover, centres are dispersed throughout political ridings, and therefore, are not necessarily accessible and universally available to all parents and children in Peel. From a policy standpoint, centres are intended to increase and maintain the well being of all children (Cowen, 1994). However, centres are neither universal nor targeted but rather an inconsistent mix of the two. OEYC programming, therefore, should be examining EDI results to strengthen their initiatives and outreach.

Healthy Babies, Healthy Children (HBHC): An example of family-based programs

The HBHC program is designed to improve the early experiences and development of children through parent-oriented programming such as prenatal and postpartum screening, early childhood screening, assessment and monitoring, postpartum support services, referrals, home visits, and service coordination. Although brief screenings and assessments and postpartum services are universally provided, the ideology behind HBHC is not one of universality. Home visiting, service planning and coordination services are targeted to families with children at high risk for child developmental problems. The HBHC services in Peel face long wait list for home visitation services and supports.

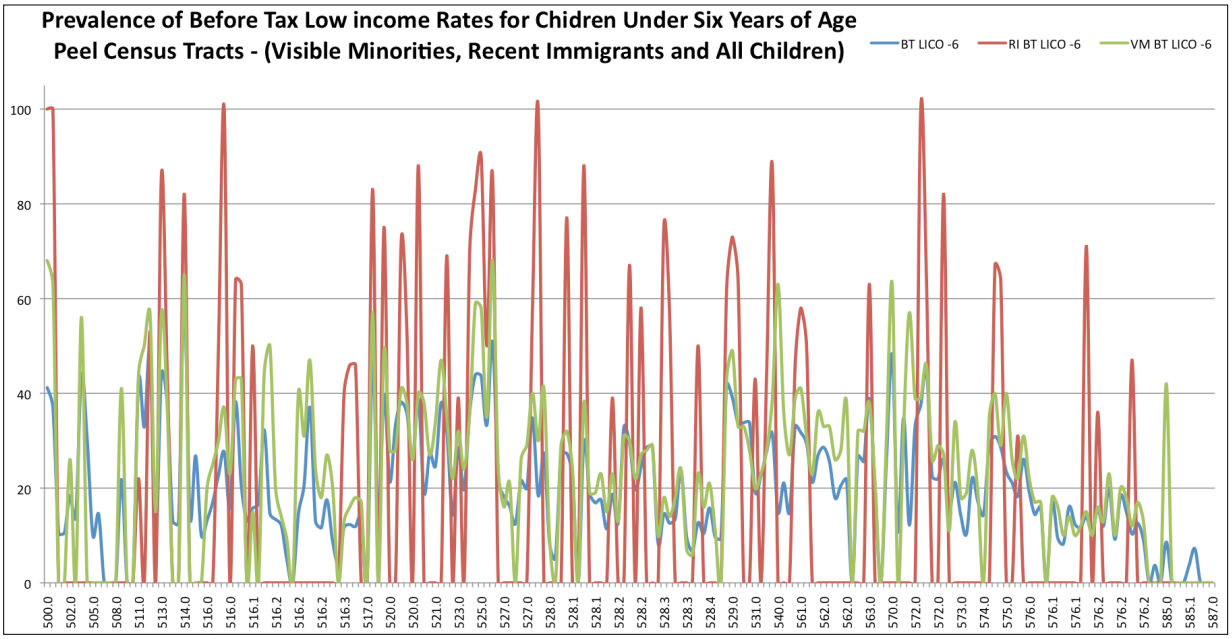
EDI data reported at the community level assesses how well children are doing within their environmental context and the impact of local programs. An environmental scan of the socio-economic status, demographics and resources of a community along with EDI data can paint a picture of how children are doing within a community. Since its first introduction to Peel, the EDI is moving out of the school readiness context and into taking the "whole-child" perspective by grounding community factors into the analysis. The 2004 EDI results, disseminated predominantly through the school boards, saw minor engagement of service providers and decision-makers in the understanding of and use of EDI results. Unfortunately, programs such as Ontario Early Years Centres and Healthy Babies, Healthy Children did not use EDI results to shape and guide their programs and outreach strategies.

Results and Findings on EDI and Socioeconomics

Analysis was conducted by comparing Census and EDI data at the Census Tract (CT)[4] level of geography. EDI vulnerability scores were provided by the Region of Peel Data Analysis Coordinators and then matched to 2006 Census data. Children were grouped into three main groups: 1. recent immigrant children, 2. visible minority children and 3. low-income children. Additional data analysis was also conducted with children who were low-income and either a visible minority or recent immigrant (Figure 1).

[4] Census tracts usually have a population of 2,500 to 8,000.

Figure 1: Low Income Cut-Offs for Children Under Six, Total, Visible Minority and Recent Immigrants by Census Tract



Source: Census Canada 2006.

A bi-variate Pearson correlation was applied to all CTs at the regional (Peel) level. Subsequent correlations were split by each of the three local area municipalities. In most instances, Mississauga displayed the same correlation trends as Peel. Though Brampton displayed similar correlation trends, results were not statistically significant due in part to the smaller data samples. Caledon's correlations rendered either no correlation at all or empty data due to the even smaller data sets displayed (refer to Table 6).

Table 6: Correlation Coefficient Summary - Peel Region

	LICO-BT	LICO-AT	VM	RI	VM LICO-BT	RI LICO-BT
Pearson's *r*	-0.268	-0.274	-	-0.190	-0.236	-
Sig. (2-tailed)	0.000	0.000	-	0.007	0.001	-

Income matters

Data analysis reveals that children living under the low-income cut-offs are more likely to have lower EDI scores. This moderately strong negative correlation was significant for both before and after tax LICOs. Thus, higher levels of poverty (before and after-tax LICO) yielded lower EDI scores and vice versa (-0.268 and -0.274, respectively). Mississauga's correlation analysis supports this finding with even slightly stronger correlations for the city (-0.304 and -0.0312, respectively). Although low-income status may well be a factor in children's lower EDI scores, some preliminary findings from the Success By 6 Peel EDI report (forthcoming) also show that socio-economic status is but just one piece of the puzzle. In some instances using the EDI scores and percentage of children less than six years living in low income has reinforced the fact that one variable is insufficient to explain why EDI scores are low or high.

The Town of Caledon is a perfect example of the aforementioned inconsistencies. Given that children in Caledon live in a positive socio-economic environment, where LICO is relatively low (0-5%), one

would expect to see more children ready for school as assessed by the EDI. However, the percentage of children "not on track" at school entry is higher than expected (13%-33%). This gap between EDI and socioeconomic status reinforces the need to further the dialogue across Peel on the specific community-based factors most influential in affecting the ability of our children to thrive. Knowledge of these community-based variables and their impact on EDI scores will enhance our predictive ability and strengthen our synergies in being more proactive in creating that enabling environment for our children to thrive.

Recent Immigrant Status: Not a Factor

Despite what community service providers and educators would expect, recent immigrant status produced a very weak negative correlation with EDI scores (-0.190). Moreover, no statistically significant correlation was found for recent immigrants living under LICO. Like in the case of income, some additional factors might be at play. A recent study by the Institute for Research on Public Policy revealed that children of immigrants faired better (as measured by income and level of education) than their Canadian-born counterparts (Corak, 2008). The absence of a relationship among recent immigrant status (whether in poverty or not) falls well in-line with findings by this report .

Additionally, recent Canadian immigration policies targeting immigrants with higher-levels of education may help explain this finding. New immigrants in their reproductive stages are more likely to come to Canada as skilled workers - as opposed to family reunification- and their children's EDI scores could well be a reflection of higher levels of education among their parents. This possibility may also stand true for recent immigrants living in poverty. Considering the difficulties that some new immigrants face in having their professional credentials recognized, they may still live under the LICO thresholds, but the influence of their education levels upon their children might play an even larger role on their child's "school readiness". For example, research suggests that maternal education has a relationship with the EDI in that "each additional year of [a] mother's education was associated with a 12% decrease in the odds of being at risk" (Willms, 2002). Further research to support this theory could be conducted by linking EDI scores to the educational levels of their parents by immigration status.

Visible Minority and Low Income Status: Important

Albeit the fact that being a visible minority *per se* does not render any correlation with EDI scores, this group has a higher degree of susceptibility when the low-income factor is added to the formula. The low-income visible minority group had a moderately strong negative correlation with EDI scores in the Region of Peel (-0.236). This finding is further confirmed by the data analysis for Mississauga, which had an even stronger correlation (-0.348). It must be noted that some visible minorities are recent immigrants, however, the number of recent immigrants as a proportion of visible minorities is minimal, and therefore, is an unlikely factor affecting this correlation.

The report on intergenerational mobility among second-generation Canadians can help explain part of this trend. "The old vertical mosaic – with whites from Britain and Europe at the top and visible minorities underneath – is no longer valid. Instead, second- and third-generation Chinese and Japanese surpass all other groups of newcomers, including whites, while for blacks and other groups, there is little or no economic mobility across generations" (Jiménez, 2008). Additional research linking EDI scores, as a total score and by its five domains, to specific visible minority groups could provide an additional lens to tackle the needs of this particular population group.

The Real Deal: Systemic Poverty

Although this paper assesses correlation as opposed to a causal relationship between the aforementioned variables and EDI scores, one can draw several conclusions regarding early child development and these socioeconomic indicators. The relationship between low-income and early

development is clear. However, poverty is just but one of the many factors influencing early child development. Albeit a strong relationship between before and after tax LICO, the crossing of this indicator for recent immigrant and visible minority children provides an additional lens of analysis.

The fact that low-income played no role on recent immigrant children's EDI whereas low-income was a factor for visible minorities (who are predominantly not recent immigrants) provides additional evidence on the role of socioeconomic impact on child development. Empirically, recent immigrants' education levels may well compensate for lower income levels, allowing their children to be "on-track" for school. Conversely, other groups living in poverty are likely caught in an intergenerational poverty trap. Hence, poverty in itself may not necessarily be that important of a factor on children's EDI scores, but systemic poverty and the factors that are often tied with it seem to be a far more relevant factor in influencing children's school readiness. Further analysis should be conducted to assess the impact of low-income on different subgroups as trend data become available for EDI over the next years.

Conclusions and Policy Recommendations

There is a middle ground between universal and targeted approaches, one that involves giving priority to high-risk, or in terms of this report, low-income communities. Any future Ontario Early Years Centres should remain universally available, but communities with higher rates of low-income visible minorities should be given priority and targeted first as research suggests.

In light of this report's findings, determining the most effective locations of centre-based programs, such as the Ontario Early Years centres, should encompass a community's income levels and visible minority status before implementation. Much like family-based programs, that provide in-depth services such as home visits and the coordination of services for high-risk clients, centre-based programs should also use criteria to ensure that service supports are available for the most vulnerable populations. This would not hinder their universality, but rather ensure that their impact is greater and more appropriate.

Furthermore, based on the analysis above, outreach and programming at centre-based services can be reviewed to ensure that they are not solely being tailored to recent immigrant populations (as they currently are). As per this research, recent immigrants are not as vulnerable a population as visible minorities with low incomes are. Services, therefore, both centre and family-based, need to be more accessible to visible minorities. Due to the larger population size of visible minorities living below LICO relative to the number of recent immigrants living in poverty, services should not be targeted to the latter group. This recommendation would not be exclusive of recent immigrants, but rather aims to target to visible minorities. Moreover, considering that a large proportion of recent immigrants are visible minorities, this group's most vulnerable subgroup would remain a priority.

The EDI results limit the discussion around the factors that can affect child development as the EDI domains examine child preparedness and do not assess for any parental or environmental conditions that may have an impact. Several communities across Ontario have employed the Kindergarten Parent Survey (KPS) as a companion to the EDI. To provide context for understanding the outcomes of the EDI, parents' perspective is gathered through the 8-page KPS survey. The KPS is a complementary tool to the EDI as it provides information such as pre-kindergarten experiences, family characteristics, neighbourhood situations, and information on the health of children. Peel should begin a conversation around gathering KPS data so to paint a more accurate picture of the factors that can impact early child development, including recent immigrant, visible minority and low-income status.

Future research should include an analysis that examines the current Peel policies and initiatives, specifically in terms of the low income and visible minority population in Peel. Furthermore, an analysis of the relationship between the EDI and the low-income measure (LIM) versus the low-income cut-offs (LICO) may contribute significantly as the former is being used by the Province of Ontario for its Antipoverty Strategy. A comprehensive predictive model should include all potential variables that contribute to the early development equation. Taking into account the diversity in Peel and this research, each community in the region could craft its own unique strategies and approaches to early year service delivery. Being cognisant of the many aspects that may impact EDI scores will certainly assist in improving these kind of services in Peel.

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