

School Readiness: Working Together for All Children

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Report prepared for the Ottawa Child and Youth Initiative

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I. Introduction

It is widely recognized by researchers, policy makers and government alike, that early childhood experiences deeply impact health and development across the life course. In Canada, for instance, there has been a great deal of effort to help young children have a great start in life. One important indicator for having a great start in life is how 'ready for school' children are. Traditionally this has focused on children's competencies (e.g. cognitive, social, emotional and linguistic skills) at school entry and their ability to meet the demands of the school environment, with much of the focus being placed on the individual child.¹

However, *school readiness* is more than the individual characteristics, skills and competencies that children have. School readiness is a broader concept that encompasses not only individual characteristics, but also the direct and indirect determinants that influence child development and includes the broader context for the child and family. This paper will examine the impact of direct and in-direct factors on school readiness and investigate the need to broaden our scope and understanding of multiple determinants of school readiness and how communities and organizations can be "ready" for all children.

School readiness is typically defined in terms of children's competencies at school entry, focusing on their ability to meet the demands of the school environment. Traditional models of school readiness tend to view readiness as a set of competencies that are characteristic of the child, failing to consider the full range of factors and processes behind children's acquisition of

such competencies. According to ecological systems theories of development,² children's development is shaped by the proximal and distal ecologies in which they are embedded (family, school, neighbourhood, society, culture). Children's school readiness, then, like other aspects of development, is the result of children's direct and indirect interactions with the individuals and institutions within these ecologies.³ In this way, school readiness is dependent not only the characteristics and aptitudes of the individual child, but on the opportunities they have access to within their environments. School readiness is not restricted to the school environment, as children are faced with learning opportunities in multiple life contexts and learning does not begin with school entry or at a specific age.

In order to improve children's school readiness, it is imperative to consider what can be done to support children's healthy development within the diverse contexts they are a part of, rather than focusing exclusively on developing school-related competencies. School readiness should be viewed not as a property of the child alone, but rather as a facet of child functioning determined by the resources and opportunities a child is afforded, and their relationships and interactions with others.⁴

What Influences School Readiness?

Child development is shaped by both direct and indirect interactions with the individuals and institutions that make up their environments (e.g. families, schools, neighbourhoods, cultures). Factors, including genetics, health, maternal and prenatal health, early environments, family relationships, community supports, society, and culture, all impact school readiness. To

understand these impacts, we must examine a wide range of readiness-related outcomes, including brain and cognitive development, IQ, executive functioning (including attention, planning, and impulse control), social competence, and emotional regulation skills, in addition to more traditional measures of school readiness such as reading, mathematical skills, and academic success.

Genetics & Health

Many aspects of children's readiness to learn are influenced by the genes they inherit. For example, twin studies have demonstrated the heritability (genetic contribution) of IQ⁵ specific school readiness skill such as spatial recognition, colour and shape identification, letter naming, and counting,⁶ and later school achievement.^{7 8 9} The psychological and physiological traits that children bring with them into interactions with their environments can shape their early experiences and in turn, their development.

Temperament is the biological foundation of personality, and describes individual differences in the way children experience, express, and regulate their emotions.¹⁰ Temperamental characteristics, such as activity level, negative emotionality, irritability, persistence, and adaptability, have been linked to children's general cognitive development^{11 12 13} and school readiness.¹⁴ Children's temperament can also influence the behaviour of caregivers, siblings, and peers. As will be seen later in this paper, the responses children receive from their environments shape their cognitive and social development, and ultimately their school readiness.¹⁵

Children's reactivity to stress is a physiological trait which is thought to interact with early environment to predict outcomes. Children with heightened reactivity raised in stressful home environments show the highest levels of illness and behaviour disorders. On the other hand, highly reactive children raised in nurturing, low-stress homes have the lowest rates of such outcomes.¹⁶ These findings seem to indicate a biologically-based sensitivity to social context.¹⁷ This demonstrates the important interplay between biological and environmental factors that play in shaping children's development and subsequent readiness to learn.

Children's health, in infancy and beyond, can have lasting impacts on their development and readiness to learn. The prenatal and infancy periods are characterized by immense physical and neuropsychological change, and contain many critical and sensitive periods for normative development. For a thorough review of current perspectives on early brain development and its environmental influences, the reader is referred to the latest publication from the Early Years Study¹⁸ which discusses these issues in detail.

Children born extremely premature, delivered before 28 weeks gestation, are at risk for a host of difficulties that can impair their future health and school readiness.¹⁹ Extreme prematurity is associated with increased prevalence of cognitive impairments, and academic performance deficits at school entry (for a review, see Bauer & Msall, 2010). Even late preterm birth (between 34-36 weeks gestation) is associated with increased risk of IQ deficits, independent of socio-economic factors.²⁰ Children born preterm are also at risk for a number of social and

emotional difficulties, including behaviour problems, difficulties with attention and executive function, and internalizing problems such as depressive and anxious symptoms.^{21 22 23 24}

Low birth weight (birth weight under 1,500 g) related to prematurity, is associated with higher rates of major neurodevelopmental impairments, such as Cerebral Palsy²⁵ which in turn impacts children's cognitive and motor functioning.²⁶

Children's nutrition is another health-related factor which impacts cognitive development and subsequent development health at school entry. General undernutrition has been associated with deficits in IQ, and achievement at school entry, even when controlling for confounding factors such as socio-economic status.²⁷ Deficiencies in specific nutrients, both pre-and post-natally, have also been associated with cognitive deficits. For example, iodine, iron, and folate have all been identified as crucial for optimal cognitive development.^{28 29 30} Relatedly, breastfeeding is associated with positive cognitive outcomes.³¹ Children who were breastfed perform better on academic tests at school entry as compared to children who were not breastfed, even when controlling for sociodemographic and parenting differences.³² Moreover, these gains seem to be maintained through early adolescence.³³

While inclusion and integration into mainstream educational programs is a goal for children with special needs, recent research suggests that most of these children lack readiness skills at the time of kindergarten entry.³⁴ Recent statistics from B.C. suggest that 88% of children with autism are not ready to meet the challenges of the kindergarten environment, as are 95% of children with severe intellectual disabilities.³⁵

Children with ADHD often have difficulty with the behavioural components of school readiness – they have difficulty sitting still, listening to instructions, and focusing on a subject for long periods of time. Children with ADHD also show impairments in cognitive functioning and academic outcomes at school entry.³⁶

There are a wide range of childhood disorders and health conditions that may impact children's readiness. This paper will not offer a detailed review, but the interested reader is directed to recent reviews by Currie (2005) and Lloyd, Irwin, & Hertzman (2009).

Chronic physical health conditions, such as asthma, allergies, digestive disorders, heart problems, or other illnesses, can impair children's developmental health. Perhaps most obviously, the pain, fatigue, and stress associated with physical health conditions can impair cognitive development.³⁷ In addition, the time required for doctors visits and treatment may also take up valuable time, for children and parents, that might otherwise be used to develop readiness skills, effectively reducing their school day and increasing the number of absences. The stigma associated with illness, or any limitations in children's abilities can also greatly affect their interactions with others, meaning that they may not be afforded the same social opportunities as healthy children.³⁸ Medications may also have unexpected side effects that can impair children's cognitive skills.³⁹

Maternal and prenatal health

A mother's health, both pre- and post-natally, is an important influence on children's healthy development that can have lasting effects across the lifecourse of the child. It is well known that maternal alcohol and drug use and abuse can have serious and lasting consequences on fetal and child development. Ingestion of alcohol during pregnancy can lead to the development of fetal alcohol syndrome, a specific pattern of disabilities including organ malformation, growth deficiencies, and distinctive facial features.^{40 41} Even in the absence of fetal alcohol syndrome, prenatal exposure to alcohol is associated with deficits in executive functioning (e.g. inattention, impulsivity), memory, and IQ, as well as with internalizing problems (e.g. loneliness, anxiety, depression).⁴² Prenatal exposure to illicit drugs such as heroin and cocaine has also been associated with developmental deficits, including birth defects,^{43 44} cognitive deficits,^{45 46 47} and language impairment.⁴⁸ Prenatal exposure to such drugs has also been associated with higher incidence of behaviour disorders in early childhood, and with subsequent placement in special education programs upon entry into kindergarten.⁴⁹^{50 51} Exposure to medications used to treat maternal illnesses can also impact children's postnatal development. For example, children of mothers undergoing drug treatment for epilepsy are more likely to require additional educational support⁵²

Mothers' stress levels and emotional well-being during pregnancy are thought to have an important impact on children's development and later school readiness and success.⁵³ Cortisol (an adrenal hormone released in response to stress) in the mother's body crosses the placenta and enters the fetus' blood stream, affecting brain development^{54 55} High levels of stress

during pregnancy are associated with lower intelligence, impaired cognitive development, behaviour problems, and disrupted emotion regulation in early childhood.^{56 57 58 59} Elevated cortisol levels in pregnancy have been linked to lower cognitive abilities in infancy and toddlerhood. However, there is evidence to suggest that elevated cortisol later in pregnancy may be associated with *increases* in cognitive abilities, suggesting that the timing of maternal stress may be important to consider.⁶⁰

Maternal depression, both pre- and post-natally, has been shown to impact children's development.^{61 62 63} Children of depressed mothers show poorer emotion regulation, social skills, language skills, and cognitive functioning, and tend to have more behaviour problems than children of mothers are not depressed or whose depression is less severe.^{64 65 66} Chronic, severe maternal depression seems to lead to worse outcomes for children than intermittent, mild depressive symptoms.^{67 68} One mechanism conveying this risk is through mothers' parenting behaviors – depressed mothers are less sensitive and responsive to their children's needs,⁶⁹ less likely to have playful, emotionally positive interactions with their children,⁷⁰ and more impatient with their children.⁷¹

Early Environment

Socio-economic status (SES) is the feature of children's early environment that has received the most research attention as an important predictor of school readiness. SES is a sociological construct used to compare a person or family's economic and social position relative to others. Definitions of family SES vary, but it is most often measured by a combination of three

components: parental income, parental education, and parental occupation (see Sirin, 2005, for a review). A large body of evidence has linked SES to disparities in cognitive development, language development, and academic achievement.^{72 73 74 75 76 77 78 79 80} Children from low SES families show particular impairments in executive function (e.g., selective attention, vulnerability to distraction, emotion regulation). Differences have been found between children from high- and low-SES families in the response patterns of the pre-frontal cortex, responsible for executive function.^{81 82 83 84 85} These disparities are hypothesized to be due at least in part to differences in verbal communication between parents and children in high- and low-SES environments.^{86 87}

Children from low SES families often face multiple risks, including inadequate living conditions, lack of material resources, malnutrition, limited access to health care and other community resources.⁸⁸ In addition, low-SES parents often attain lower levels of education, experience increased stress and psychological distress, offer less stimulation in the home environment, and rely on more harsh and restrictive parenting strategies.^{89 90 91} Children facing multiple socio-demographic risk factors, in turn, show impairments in their academic achievement,^{92 93 94 95} as well as higher likelihood of behavior problems⁹⁶ at school age.

Closely tied to SES, the quality of the child's home environment is another important predictor of school readiness. The amount of developmentally-appropriate stimulation provided to children in the home are important both to the learning of specific pre-academic skills, but also to developing children's general motivation for learning.^{97 98} Mothers who are less educated

tend to provide less cognitive stimulation for their children,⁹⁹ and their children enter school less prepared to meet the demands of the school environment in comparison to their more advantaged peers.^{100 101} Children experiencing extreme conditions of deprivation and lack of stimulation (for example, those raised in poor-quality orphanages) show often severe impairments in cognitive functioning, and social development.^{102 103}

One critical aspect of home environment is the amount of talk families engage in with their children.¹⁰⁴ Affluent and highly-educated parents seem to be the most talkative, and it is estimated that by age 3, their children will have heard 30 million more words than children from less educated and more economically disadvantaged families.¹⁰⁵ Research suggests that the number of different words a child is exposed to by three years of age is directly related to their vocabulary and reading abilities at nine years of age.¹⁰⁶ Differences in vocabulary acquisition at young ages is linked with both general and language-specific academic success.¹⁰⁷¹⁰⁸ Exposure to language also influences IQ – children from the most talkative families score approximately 25 points higher on tests of IQ than children from the least talkative families.¹⁰⁹

Particular demographic groups and minorities also face additional challenges in being prepared to for school entry. Children from immigrant families are at risk for certain readiness-related difficulties. For example, both first- and second-generation immigrant children have been found to show deficits in cognitive and language skills at preschool age.¹¹⁰ These difficulties seem to persist, with immigrant youth underperforming academically into adolescence.¹¹¹ This may be due to many factors, including the stresses associated with relocation, navigating new social

contexts, overcoming language barriers, and also to the fact that immigrant families may be more likely to live in disadvantaged neighbourhoods.¹¹² However, some studies have also indicated that first-generation immigrant children show advantages in the domains of socio-emotional development and behaviour.¹¹³ This may be because of culture-dependent differences in parents' values and childrearing practices.

Canadian children of Aboriginal status are at risk for poorer school readiness than their non-Aboriginal peers. Aboriginal children tend to score lower on measures of language, cognitive abilities, social competence, emotional maturity, and communication skills at school entry.¹¹⁴

¹¹⁵ ¹¹⁶ This gap in school readiness may be due to the marginalization and poverty often experienced by Canada's Aboriginal population.¹¹⁷

There is growing evidence to suggest that children of teenage mothers are at risk for deficits in school readiness. Children of teen mothers show lower levels of cognitive functioning and more behaviour problems than peers with adult mothers.¹¹⁸ ¹¹⁹ Children of teenage mothers begin school with lower readiness-related skills, including math and reading scores, social and communication skills, and socio-emotional adjustment.¹²⁰ There are many possible reasons for these associations. Teenage mothers tend to be from more economically and socially disadvantaged backgrounds.¹²¹ They are also less likely to attain higher levels of education (and often do not complete high school), which is a known risk factor for children's readiness to learn.¹²² Teenage mothers are also less cognitively and emotionally mature, and may adopt different parenting practices and engage in more risky behaviour than older mothers.¹²³

Apart from the risks faced by individual families, the characteristics of the neighbourhood a family lives in also influences children's school readiness. Studies of neighbourhood demographics typically use composite measures that take into account the proportion of families who live in poverty, who have low levels of education, who are headed by a single parent, or who are members of a minority group. These neighbourhood characteristics are associated with impairments to children's social and cognitive development.^{124 125 126} The linguistic environment of a neighbourhood seems to influence children's cognitive and language development. Children living in neighbourhoods with high proportions of adults who do not speak the majority language(s) (i.e., French and English, in Canadian studies) show impairments in communication skills and cognitive development at school age.¹²⁷ Recent research has also examined the effects of neighbourhood social cohesion and collective efficacy. Perhaps not surprisingly, children seem to fare best when communities are trusting, effective in protecting public order, and when members reciprocally rely on each other to supervise children.¹²⁸ Close social networks within a neighbourhood mean that parents can rely on other community members for help, support, and child care.¹²⁹

Family and Early Relationships

Children's families, particularly their parents, have a great deal of influence on their development.¹³⁰ As discussed previously, these influences are both direct and indirect. Parents are responsible for providing a suitable home environment for development and their own

health and wellbeing greatly impacts their children. Furthermore, relationships between parents and their children also prove to be particularly important to healthy development.

Responsive caregiving, by parents or others, is identified as a primary contributor to children's healthy cognitive and socio-emotional development, and subsequent school readiness.^{131 132 133}

¹³⁴ Responsive caregiving involves three components: 1) *Contingent responsiveness* (i.e., the adult accurately reads and responds to the child's cues), 2) *sensitivity* to the child's specific needs, temperament, and moods, and 3) *engagement* of the child's attention and active involvement in play or other routine activities.

Maternal warmth, acceptance, and responsiveness are associated with markers of children's readiness to learn in the domains of mathematics and language,^{135 136} as well as important prerequisite skills for readiness such as sustained attention,¹³⁷ effortful control,¹³⁸ and social competence.¹³⁹ On the other hand, parents' use of hostile or coercive disciplinary strategies seems to negatively impact children's school readiness,¹⁴⁰ likely by impairing the development of such prerequisites as self-regulation,^{141 142} mastery motivation skills,¹⁴³ and social competence.¹⁴⁴

Sensitive, responsive caregiving seems to be particularly important for children already at risk due to health factors or socioeconomic status.¹⁴⁵ Unfortunately, within families experiencing socio-economic stress, parents tend to exhibit lower levels of warmth and responsiveness, and higher levels of coercive discipline.^{146 147 148} Low SES mothers also tend to engage in fewer

developmentally enhancing activities with their children, such as reading to children, using complex language, and providing stimulating materials.^{149 150} Similarly, mothers suffering from depression are less likely to display sensitive and responsive parenting.^{151 152 153 154}

Though most research has focused on mothers' influence on children's development, there is evidence to suggest that fathers play an equally important role in ensuring their children meet their developmental milestones and are ready for school entry. For example, having a father who holds more child-directed attitudes towards parenting is associated with better cognitive functioning at two years of age.¹⁵⁵ Positive paternal involvement has been associated with better cognitive development, increased social competence, and fewer behaviour problems at school entry.¹⁵⁶ Specifically, fathers' vocabulary is directly associated with children's cognitive and language development.^{157 158} Fathers' sensitive, responsive parenting is also associated with children's cognitive functioning in toddlerhood.^{159 160 161}

Grandparents and other adult family members may also play a significant role in children's development and school readiness.¹⁶² Positive relationships with grandparents may buffer children from other family risk factors, including maternal depression and mothers' substance abuse.^{163 164} Children's siblings are another important family influence on development. Interactions with siblings are thought to foster children's cognitive development, particularly the development of perspective taking and theory of mind (the understanding that other people hold ideas and thoughts different to one's own).^{165 166} Positive sibling relationships have been associated with greater performance on theory of mind tasks in toddlerhood, even when

controlling for demographic factors and parent-child relationship quality.¹⁶⁷ Positive relationships with siblings have also been linked to greater socio-emotional adjustment at preschool¹⁶⁸ and may even buffer children from the negative effects of stress and negative emotions.^{169 170}

Family structure can also impact children's development. For example, single parenthood is a risk factor for vulnerability upon school entry, and is associated with children's lower academic outcomes through high school.¹⁷¹ Factors related to single parenthood, such as marital disharmony, fewer monetary resources, and increased constraints on time spent with children, may contribute to this effect.

In addition to interactions with their families, children's early peer relationships can impact their development and school readiness. Positive, interactive play with peers is associated with the development of many readiness-related skills, including emotion regulation, attentiveness and executive functioning, and is negatively associated with aggression and withdrawn behaviour.¹⁷² Such positive peer play is thought to serve as a buffer for disadvantaged children, promoting healthy development.^{173 174} Interventions targeted at economically disadvantaged children, designed to increase positive peer interactions, have been shown to enhance children's academic and social skills.¹⁷⁵

Community supports and resources

The supports and resources available in a child's community can greatly influence a child health and development and subsequent school readiness.

Participation in high-quality early child care programs, like preschool or daycare, has been shown to improve children's readiness to learn.^{176 177 178} Children who participate in such programs show enhanced cognitive development, social skills, and performance on indicators of school readiness.^{179 180 181 182 183} One key feature of quality early child care is the knowledge and training of the caregivers or teachers. Caregivers who are sensitive and responsive to children's needs foster secure attachments and contribute to children's healthy cognitive and social development.^{184 185 186} Another feature of quality child care and preschool is the presence of developmentally appropriate materials and activities that offer stimulation and support for cognitive and physical development.^{187 188}

High quality child care seems to be particularly important for children facing other early risk factors, including low SES, low birth weight, and prenatal drug exposure.^{189 190 191 192} For example, participation in high-quality programs may provide low-income children with opportunities and experiences that may not otherwise be available to them. Positive relationships with adults outside the family may also help protect children from the negative effects of troubled family relationships.^{193 194 195 196 197 198} Indeed, the strongest effects of early child care programs on cognitive development, social development, and academic achievement at school entry have been found for children from disadvantaged backgrounds.^{199 200 201}

On the other hand, poor quality child care may impair language, cognitive, and social development, especially in the first two years of life.²⁰² There is evidence to suggest that lower-quality child care in these early years is associated with higher incidence of behaviour problems^{203 204 205} as well as impaired cognitive development,^{206 207} and language development.²⁰⁸ Children from low-SES neighbourhoods are less likely to have access to high-quality child care,²⁰⁹ thus further compounding their risk.

The relationships between families and schools are another key contributor to children's school readiness and academic achievement. Parental involvement in school encompasses quality communication with teachers and school officials, mutual support, collaborative goal setting, and cooperative decision making between families and schools.^{210 211} Quality family-school relationships contribute to children's attitudes and motivation towards school, promoting school readiness.²¹² They also ensure that parents' expectations are aligned with schools', encourage continuity between school and home learning, and allow parents to more effectively monitor their children's progress.²¹³ Although some of the responsibility in fostering such relationships naturally falls to parents (and depends on their attitudes towards school and education), there is much that can be done at the level of the school community to facilitate parents' involvement. For example, many schools rely on passive practices to communicate with families – letters and flyers sent home with children, flyers, and open houses.²¹⁴ This type of contact is seen as impersonal by parents, and may not serve to promote children's school readiness.^{215 216} More active approaches to parent-school communication, involving in-person contact between parents, teachers, and administrators, as well as training for teachers on how

to effectively foster such relationships, may help strengthen family-school linkages and facilitate children's skills and development both at school and at home.²¹⁷

Society and Culture

The larger society and culture a child is raised in can indirectly influence healthy development and child outcomes. For example, some countries view the provision of child care as the responsibility of the state, while elsewhere it is seen as a private concern. For example, 85% of mothers of preschool children in Sweden are employed outside the home, and the government provides high quality publicly funded child care.²¹⁸ France, similarly, provides free schooling to children as of three years of age, and pre-school teachers are required to hold a master's degree. Denmark, similarly, subsidizes high quality child care with trained educators for infants as young as 6 months. In these countries, as well as several others, including Belgium, Spain, Hong Kong, and Germany, where child care is publically funded, the disparity in quality of services for affluent and underprivileged families is greatly reduced. Elsewhere, where child care costs are relegated to parents, less affluent families may not be able to afford high-quality services.²¹⁹

In Canada, child care and early education fall under provincial jurisdiction, and thus child care subsidy policies and average cost of child care vary from province to province. Parents in Ontario spend the most on child care (\$3,500/month), and parents from the Atlantic provinces report the lowest cost of child care (\$2,000/month).²²⁰

Societal attitudes towards parental leave, and the infrastructure in place for new parents to take such leave, are also likely to influence children's early environment and development. Parental leave is defined as an employee benefit that provides paid or unpaid leave from work to care for a child. Though most countries have a statutory maternity leave policy, these policies vary widely in length, compensation, and whether they are restricted to biological mothers.²²¹ For example, in Sweden, leave is relatively long (480 days per family), is not restricted to women, and is paid at a high percentage of previous earnings. In Australia, in contrast, leave is unpaid and lasts only 12 weeks. The United States has no statutory parental leave policy, and such leave is instead subsumed under general family and medical leave. This coverage is not universal and, as a result, excludes about 40% of workers because they work for smaller companies.²²² These wide discrepancies in leave policies are likely to result in significant differences in the lives of children. Policies that pay parents based on a percentage of their previous income (for example, Canadian parents are entitled to 35 weeks at 55% average income) mean that government support varies widely from family to family - even within a country. Low SES parents may have little choice but to return to work early to make ends meet. Variations in parental leave impact child development through differences in parental stress, health, and income, as well as the decisions parents make regarding child care and breastfeeding.²²³

Workplace culture, or the unspoken attitudes, values, and beliefs that permeate an organization, may also impact parents' decisions of whether and how to make use of various work-life balance policies.²²⁴ Some workplaces may emphasize traditional career paths

including long work hours and little flexibility, whereas others may showcase alternative models of success that include greater work-life balance – the policies and supports available to employees are likely to differ widely between these two cases.

How Can a Community Be “Ready” for All Children?

Understanding the various biological and environmental factors that influence child development is only the beginning. In order to effect change, this knowledge must be used to provide programs and services that foster readiness for all children.

Parent Education

Parent education programs can be used to foster sensitive, responsive parenting and reducing the use of strategies such as coercion.²²⁵ Interventions designed to increase positive parenting strategies have been successful in fostering more positive parent-child relationships,^{226 227} decreasing children’s behaviour problems,²²⁸ and improving specific school readiness-related skills such as inhibitory control, literacy, and numeracy.^{229 230}

For recommendations to families to be successful, however, the caregivers must readily adopt the strategies suggested to them. Strategies that are aligned with families’ beliefs and values, and which take into account their own individual knowledge bases and interaction styles are most likely to result in positive outcomes for families and children.^{231 232} Programs that are tailored to children’s and families’ individual needs, goals, and strengths, for example by offering families a flexible menu of change strategies, are more likely to be readily adopted and

maintained by parents.²³³ Periodic contact with families after the initial intervention can also be used to promote maintenance of positive changes.

For families who are at risk due to low SES, low education, or occupational instability, services for parents such as job skills training and adult education may be of additional benefit. Such programs can help reduce parents' stress and improve their well being, self-efficacy, and occupational success, which helps enable them to provide an ideal learning environment for their children.²³⁴ For parents to be able to take advantage of such services, child-care can be integrated into such programs to allow parents the time to focus on their own development.

Many families struggle to provide a home environment, consisting of routine activities and experiences that support child development. For families of children with disabilities or delays, structuring routines and activities to meet their child's needs may take even more time and effort.²³⁵ These families may benefit from additional parent education and child-care support, to help ease the stress of raising a child with special needs.

Teacher Training

As discussed above, school readiness can be greatly influenced by their preschool and early care experiences. Professional development programs can help early childhood educators and other professionals, working with young children, gain the skills that will help them support healthy child development. Teacher training programs have been shown to yield improvements in teachers' competencies, as well as children's school readiness skills, including social

competence, emotional self-regulation, and language and literacy skills.^{236 237} Training programs can also help prepare early childhood educators to collaborate effectively with parents.^{238 239} Programs that provide detailed feedback to teachers on their classroom performance may be particularly useful in effecting change.²⁴⁰

Integration of Services

Many authors have argued for the benefits of integrating multiple services for children and their families.²⁴¹ Integrating services such as child care, parent education, and health services into a comprehensive school-based program ensures that barriers to services are reduced, since families need look no further than their child's school. An integrated model of services provides continuity for the child and the family across different contexts, and if comprehensive, it can also support children as they move through developmental changes. Integrated services can make transitions (such as that from pre-school to kindergarten, or from grade to grade) easier for children, and even eliminate them entirely, since they ensure that children experience consistent programming, adhering to the same philosophies of education and care, as they move from level to level within the service program.²⁴²

There is empirical evidence to show that service integration programs can have a positive impact on child development and school readiness.^{243 244} The best known of these programs is Head Start, a United States Department of Health and Human Services program for low-income children and their families. The Head Start program integrates child care, pre-school education, parent education, nutrition and social services, using a combination of school-based services

and home visits, depending on the needs of each community. Numerous studies have demonstrated that children enrolled in Head Start show immediate gains in cognitive development, socio-emotional functioning, and health.²⁴⁵ The program has also been found to promote positive parenting strategies. Findings are mixed regarding the longitudinal stability of these gains, but longitudinal studies have suggested that Head Start attendees are more likely to graduate from high school, attend college, and earn more money as adults.²⁴⁶

Canadian programs have also shown success in improving children's school readiness. For example, the Toronto First Duty project was a pilot program which provided integrated kindergarten, child care, parent education, health care, and child and family mental health services.²⁴⁷ The program, implemented at five public elementary schools in the Toronto area, resulted in gains in children's socio-emotional maturity and academic readiness. Based on such findings, it seems that integration of multiple services for children and families, including health care, child care, and education for both parents and children, will have the most dramatic impact on child development and school readiness.

Conclusion

For children to have an optimal opportunity to learn, as a community, we must support young children and their families in promoting child development and their transition into school.

There are many factors that influence and impact on a children school readiness ranging from individual characteristics such as genetics and health, to peer and familial relationships, to direct and indirect environments. Comprehensive, integrated social and societal supports to

families and young children will provide every child the opportunity to succeed and thrive.

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