

The COVID-19 Experience for the Family and Children:
A Study of Iranian Immigrant Families in Montreal, Canada

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ABSTRACT

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The COVID-19 pandemic has had a significant impact on children and families around the world. Iranian immigrant families in Montreal, Canada, have faced unique challenges related to social isolation, economic pressures, and difficulties accessing public services during this time. These challenges were compounded by pre-existing stressors, such as language barriers, cultural differences, and the integration process in the new country. Eight Iranian immigrant parents (seven mothers and one father) were interviewed regarding their experiences coping with the COVID-19 pandemic, in particular, the effects on the children and the strategies families used to cope with the pandemic. Finally, parents were interviewed regarding their perceptions and beliefs regarding exposing children to nature, its opportunities and challenges and one coping strategy. Parents reported feeling overwhelmed by the demands of managing their children's education at home while also trying to work and manage their own stress. Parents also stated that children, in turn, experienced feeling lonely and disconnected from their peers and struggling with the abrupt changes in their daily routines. Despite these challenges, the study also found that this population were resilient and resourceful, relying on their own networks of support and seeking out community resources to cope with the pandemic. Overall, the study highlights the need for policymakers and service providers to understand better the unique needs of immigrant families, including access to resources in multiple languages, addressing financial challenges, and mental health support during the pandemic.

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In the end, I dedicate this research to those, in particular children, killed in **flight PS752**. Hoping for a day when no child in the world is forced to migrate.

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The COVID-19 Experience for the Family and Children:
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Introduction

The COVID-19 pandemic has had a significant impact on families around the world and can be classified as a large-scale stressful situation. Having occurred worldwide, COVID-19 means many people meet the criteria for a unique stressful event (Liang et al., 2020). School closures, social isolation, economic crisis, stress and anxiety, routine disruptions and mental health concerns could be considered as some of the aspects that the pandemic has affected families. Among these aspects, mental health and well-being could be prioritized as the most challenging experience for families.

Although not directly labelled as a traumatic event, Prime and her colleagues (2020) indicate that the COVID-19 crisis may be associated with economic instability and a public health crisis. Thus, COVID-19 can be categorized as a difficult and stressful event that places a large burden on families. As a global crisis, COVID-19 has a serious impact not only on the healthcare system and the economy but also on the general well-being of both adults and youth in the family (Crandall et al., 2021; Griffin, 2020; Liang et al., 2020; Prime et al., 2020). Having to keep physical distance from others, quarantine situations, social isolation, lockdown and curfew conditions for a long time may negatively affect individuals' well-being. The mental impact of COVID-19 could be experienced in various ways, such as feeling depression, grief, fear, panic, and anxiety.

Guy-Evans (2020) indicates that according to the Ecological System Theory of Bronfenbrenner, macrosocial changes influence the smallest members of society's microsocial layer, children. On the other hand, the child is not passive at the center of the ecosystem and also

influences the people and the environment around them. Thus, in the pandemic situation, stressful child-parent relationships can, in some cases, increase the negative effects on family members' interactions (Guy-Evans, 2020). As a stressful event, the COVID-19 pandemic was also expected to increase conflict in marital relationships. As parents run into a challenge, their lack of well-being may overshadow all the other underlying bonds within the family relationships, specifically with children (Prime et al., 2020).

As stated, "immigration, even in the best circumstances, is a very stressful life event" (Eggerth & Flynn, 2021). Immigration has a series of stressful factors, such as settling down in a new environment, restricted access to health care, learning a new language, finding a job, integrating into the new community, and limiting travel to the home country.

It is important to indicate that immigrant families can be more vulnerable to developing stress disorders as they are less supported and may have fewer resources compared to native families (Perreira & Ornelas, 2018). Thus, there is a need to help immigrant families and children who may be at greater risk during the pandemic of COVID-19 (Prime et al., 2020). Existing bonds and relationships between parents and children significantly determine the path that a family will take during a stressful event (Prime et al., 2020). The purpose of this thesis is to examine Iranian immigrant families and how they coped with the COVID-19 pandemic in the host country, Canada.

The Effects of the COVID-19 on Families and Children

Since the beginning of 2020, the COVID-19 pandemic has started to dominate all parts of the world. More than 6.5 million deaths were reported by the WHO by the end of the year 2022, and numerous cases of mental health issues were documented (<https://COVID19.who.int/>). As the COVID-19 crisis became widespread worldwide, it started to transform children's daily lives

(Onyeaka et al. 2021). At the beginning of the school closures in March 2020, it seemed that many children were happy to stay home. They felt as if they were on a long holiday instead of being in quarantine, mostly because the children could stay home with the entire family without having to do homework. Younger children had very little understanding of the dangers of the situation and enjoyed spending more time with their parents and siblings (Roccella, 2020). However, once the duration of the quarantine was extended, the limitations on visiting friends and extended family became difficult. At this point, the fears and uncertainties of the adults became more evident (Roccella, 2020).

The family cannot be broken into its constituent parts, and every dyad will relate with other dyads to make a whole “system.” Thus, psychologists usually consider a family as a unit (Crandall et al., 2021; Prime et al., 2020). During the pandemic, it was reported that children were less prone to this disease, but they were referred to as silent spreaders, low-risk or invisible carriers of the disease. These labels led to the neglect of the mental effects on children, including the increased risk of experiencing violence. Violence against children is categorized as physical, sexual and emotional abuse, neglect, bullying, assault, homicide and sexual exploitation. Parents, peers, teachers, police, or strangers can perpetrate violence against children in public, private and institutional spaces (Bhatia et al., 2021). There are many reports of violence within families as the family members were stressed and puzzled by the situation and how to handle it (Mazza et al., 2020). When children observe violence, they may also develop fear and become stressed. Though they may not necessarily be the direct victim, the dangers of the stressful situation remain even if children witness an aversive event happening to others or are exposed to an event that has occurred to a family member (Liang et al., 2020; Roccella, 2020).

Effects of the Pandemic on Children. Children are the most vulnerable population that may be severely affected by the pandemic as they lack many coping skills (Liang et al., 2020). Various responses to a difficult, stressful event may include uncontrollable thoughts, dreams, or flashbacks (Brown, 2021). These kinds of situations can also negatively affect children's moods, cognitive abilities, and reactions (Roccella, 2020). Thus, the tremendous effects of this crisis may possibly remain with them for many years and may even affect their long-term development (Liang et al., 2020), although this may depend on the age of the children. Information from the Harvard Medical School (2019) indicates that repeated exposure to stressful events in children may be associated with long-term effects on their physical health, such as obesity, chronic illness, and heart disease in adulthood (Harvard Health Publishing, 2019).

Children's thoughts or minds can also be negatively influenced (Brown, 2021). Cognitive problems such as difficulty in thinking and concentrating, as well as learning disabilities, have been seen in children after a stressful event. Also, children may present memory impairment and difficulty moving between two or more activities. Thus, it is likely that at least some children exposed to high levels of stress may exhibit school problems, delayed development, or even loss of already acquired skills due to uneven educational experiences (Roccella, 2020).

Another effect of stress on children relates to the emotional aspect of development (NCTSN). During the adverse situation, Roccella (2020) argued that children might feel unsafe and form an insecure attachment to their caregivers. In addition, children may show low self-esteem and an inability to control their emotions, and they may develop difficulties in their relationships with their friends. Consequently, children may experience loneliness, depression, and anxiety as a result of social avoidance (Roccella, 2020)

As a last point, Roccella (2020) notes that the behaviour of some children may change. For example, some children may not be able to have control over their impulses and emotions. They may engage in fighting and aggressive behaviour, or older children may even run away from home. Research shows that some older children may take refuge in substance abuse, and in severe cases, may even commit suicide (Mental Health Services Administration, SAMHSA, 2018).

Based on the Child Welfare Information Gateway's fact sheet (2014), the effects of a stressful event such as the pandemic on children varies depending on several factors, including the age of the child, the frequency of the stressful experiences, and the quality of the child's relationship with caregivers. Younger children, even as young as one year old, may be most vulnerable as they are unable to talk about stressful events (Child Welfare, 2014). Frequent exposure to the same type of adverse event is more harmful than single exposure.

In a pandemic as serious as COVID-19, which changed our lives day after day by altering all our routines and sense of safety, the effects of constantly sensing the presence of a possible threat can be tremendous. The impact of a stressful experience such as COVID-19 can also be influenced by coping skills and the sensitivity of a child and their perception of the event. The amount of fear a child experiences in response to a stressful event is a significant factor in determining the effect on the child's short and long-term development.

Probable Outcomes of Stress. Family stress can be categorized in different levels, examples could be referred to as daily hassles and uplifts, life events, and traumatic life events, respectively (Malia, 2006). Cultural and religious beliefs and other sociological resources are different among people that experience stressful events and, thus family resources vary in an unfortunate situation. According to Prime and her colleagues (2020), religious beliefs that guide

individuals on how to view the world as a whole can give people something powerful to hold on to when facing stressful situations. Meaning-making, optimism, and spirituality can strengthen the extent of family adaptation to a new and unpleasant situation. Once a family is able to make sense of a stressful situation by considering the obstacle as short-lived or manageable and also by understanding the painful context, specifically that the experience is not the personal fault of anyone, they can experience a deep sense of togetherness that will help them through the challenge. Individuals in such families are less likely to keep thinking about the worst-case scenarios and thus thrive to overcome the problem with strength and energy (Prime et al., 2020).

One controversial issue concerning young children's response to stress is related to the amount of stress exposure or whether mediating factors such as parental support and family cohesion play a predominant role. According to some researchers, parental capacity and family cohesion after a stressful experience are of equal or even greater importance than specific aspects of the experience regarding the reactions of young children (Almqvist & Brandell-Forsberg, 1997). An additional point is the possibility of increased vulnerability to stress in children from families exhibiting dysfunctional behaviours before the actual stressful experience. Studies showed that exposure is a complex phenomenon and that the child's emotional arousal during a stressful event could be more important than physical proximity. Emotional arousal in a child depends, among other things, on his/her ability to use a parent as a secure base (Almqvist & Brandell-Forsberg, 1997).

Vulnerability of Iranian Immigrants to Stressful Situations

Even though there are numerous studies on the impact of pandemics and epidemics on mental health (Fasano et al., 2021; Fegert et al., 2020; Gadermann et al., 2021), no evidence of documenting an effect on the psychological well-being of refugees and migrants have been

found. This is surprising considering the size of this group, which is 4% of the world population according to the United Nations (Spiritus-Beerden et al., 2021).

Immigrant families, in general, may face a variety of challenges related to the process of migration, cultural adaptation, and integration into the new society. Thus, they may need support from their communities and social services to overcome immigration challenges and build successful lives in their new home.

Iran is one of the top ten countries of birth for immigrants to Canada. Iranians are a relatively new and growing community in Canada. The number of Iranian immigrants in Canada has increased 147% from 1996 to 2006 (Shishehgar et al., 2015). From 2011 to 2016, the number of Iranians who immigrated to Canada (42,070) ranked fourth after the Philippines, India, and China (Statistics Canada, 2016). Iranian immigrant families in Canada may struggle with a variety of challenges. Language barriers can make it difficult for them to communicate with others, find employment, and access social services. Besides, Iranian immigrants have a very different cultural background from that of the major Canadian culture, as the customs and social norms in Canada may be different from what they are used to. This can lead to feelings of isolation and difficulty in building social networks, and confusion among family members, especially parents and children who may have different cultural expectations (Dastjerdi, Olson, & Ogilvie 2012).

Although there is limited research on the mental health of Iranian immigrants, the available research indicates that they are exposed to mental health problems. A German study revealed that 28% of Iranian immigrants had experienced mental disorders due to acculturation stress (Shishehgar et al., 2015). There is no further awareness about the causes that result in leaving them vulnerable to such issues. In addition, Iranian immigrants are confronted with

issues and obstacles, including (a) the language barrier, (b) the low familiarity with the Canadian health care system and related social services; (c) lack of employment and sense of discrimination; (d) lack of trust in Canadian health care services due to financial limitations and fear of disclosure; and (e) the need for psychological supports, which in turn, can create severe challenges to access health care services during the pandemic of the COVID-19 pandemic (Dastjerdi et al., 2012).

Immigrant children usually belong to families who struggle to cope with the challenges in their new country; therefore, these children can be exposed to high levels of stress, particularly through the first years of immigration. Children who come from a different culture begin to develop in a new country; they must adapt themselves to a new language, a new school, and a new culture. However, even after being in the host country for some time, they still express their connection to their home country (Igoa, 2013).

According to a study carried out by Ehteshamzadeh (2019), the rate of PTSD is higher in Iranian immigrants leaving Iran in relation to other ethnic groups migrating from their home countries. This author reviewed other literature that also showed that Iranians are more vulnerable to exhibiting psychiatric impairments associated with immigration and have higher rates of depression, anxiety, and PTSD compared to other ethnic groups. Iranians often resist seeking help from psychotherapists as they see being diagnosed with a mental condition as shameful (Ehteshamzadeh, 2019). Therefore, their conditions are complicated or at a developed level once they see a therapist. Some practitioners have reported comorbid disorders to be common among Iranian clients that seek help for mental disorders (Ehteshamzadeh, 2019). Also, a lack of knowledge and training among the professionals with respect to the Iranian culture and styles of communication makes it challenging for them to treat Iranian patients. Thus, the

therapist must have a relatively lengthy background in dealing with Iranian patients or at least some training in Iranian culture to provide effective therapy (Ehteshamzadeh, 2019).

Need for Screening and Healing Programs for Immigrant Children. It is important to examine the effects of stressful experiences on young children and design interventions that will aim to alleviate the negative effects of troublesome events and foster resilience among children. Stressful events can affect children's future outcomes and lead to future mental illness, substance abuse, difficulty forming relationships, and lack of success in school (Almqvist & Brandell-Forsberg, 1997; Elliott et al., 2005).

A study on children aged 4-17 in the US indicated that 61% of immigrant children visited mental health private practices or clinics for emotional and behavioural difficulties (Birman & Chan, 2008). Immigrant families, and consequently their children, may be frequently exposed to high levels of stress and demonstrate a number of negative effects in such situations. Therefore, there is an urgent need for screening and healing programs in the host countries not much later than arrival in order to prevent a delay in the treatment, which in turn may lead to severe negative effects. This situation is now compounded by the experiences associated with the COVID-19 pandemic.

Healing of Severe Effects of Stress

Generally, every year millions of children are exposed to severe stressful situations that may eventually be associated with negative outcomes (Roccella, 2020). However, it is not easy to say how many children develop negative outcomes after exposure to stressful events. In a study conducted in 2011 on a large sample of primary school children, 14% reported having been exposed to stressful situations (Alisic et al., 2011). Currently, the number of children experiencing aversive events worldwide is growing as a result of the COVID-19 pandemic. The

coping mechanisms for this pandemic must be designed in accordance with the needs of the individuals; particularly in children, the strategies need to be designed considering their developmental needs (Brown, 2021; Skuse & Matthew, 2015). Generally, several healthy ways, such as exercising, sleeping, and reuniting with loved ones regularly, are suggested by previous research on coping with experiences to diminish their adverse effects on adults and children (Skuse & Matthew, 2015).

In terms of the global effects of stressful situations, one of the best ways to decrease the impact is to introduce common and easily available strategies that many individuals can hold on to and get energy from. There is a concept introduced by Courtney (2020) regarding family and cultural resilience. The author designed an activity that aims to recover ancient methods that our ancestors used to confront stressful or harsh situations. The activity asks the reader to come up with a few ways that our ancestors may have used to survive the situation (e.g., throw a stone, run to the cave, make a fire) quickly and efficiently, depending on the relevant situation. Early humans did not have resources other than nature to rely on in case of danger. As human life must have been a lot more unpredictable in the past, early humans must have developed many skills to deal with unexpected incidents when they arose. Modern humans have lost many of these instincts due to low exposure to nature. The fast-changing aspects of nature and the constant flow of energy and life in nature make it far from the more predictable lives we have surrounded ourselves with in modern times. The true natural instincts of humans are meant to help them deal with hardships in their world (Courtney, 2020). A study of 14 immigrant women revealed that interaction with nature positively influenced the mental health of these women. This could be due to the fact that exposure to nature leads to mood enhancements, and facilitates feelings of mastery, attachment, and belonging. Moreover, physical activity in nature can improve mood and

release stress conditions (Lorentzen & Viken, 2020). These ideas may provide some suggestions for helping children to deal with the pandemic by emphasizing the therapeutic value of nature.

Nature exposure for children must be age-appropriate and child-oriented. Adventure therapy aimed at children must be accompanied by games and activities that are appealing to them. They enjoy exploring nature and, unlike adults, require minimally directed arrangements to guide them through activities in nature (Li et al., 2018). Children are attracted to loose elements in nature, such as mud, sand, leaves, and water (Harris, 2017). Playing with sand improves nerve endings by stimulating the skin (Li et al., 2018). Equipment that swings or moves is interesting for children in that they offer vestibular input. Through such activities, children practice their balance and coordination in both their gross and fine motor skills and show improved sensory engagement in natural environments (Li et al., 2018).

Researchers argue that today's children have limited access to natural environments, which may possibly explain the increased incidence of self-injury and mental health disorders. This issue seems to be a well-known phenomenon called: "nature deficit disorder" (Tan & Simmonds, 2018). The concept was first introduced by Richard Louv (2005) in his book 'Last Child in the Woods', as a disorder of the modern world. He describes how life in cities gradually takes children away from rural living and frequent, rich exposure to nature (Vice-Reshel, 2016). Louv (2005) links disconnection to the natural world with childhood problems such as a rise in obesity, attention disorders, and depression (Tan & Simmonds, 2018). On the other hand, advantages associated with nature exposure, including improvement in attention, imagination, observation skills, and creativity, are noticed in most children with mental disorders (Meighan & Rubenstein, 2018). Nature exposure also seems to be especially beneficial in reducing stress, and aggressive behaviours, giving children a safe place when they are in stressful and harsh

circumstances such as war, divorce, or troubled unstable families (Berger & Lahad, 2010; Kriel et al., 2016).

Moreover, many researchers have dedicated their efforts to introducing outdoor learning models and nature exposure for children with psychological disorders (Vice-Reshel, 2016). Most of these studies show benefits such as improved engagement, improved self-discipline, learning experiences that are relevant and exemplify realities in students' lives, easily recalled experiential learning, and provide opportunities for the improvement of attitudes, an increase in knowledge, as well as social and interpersonal skills (Barkat et al., 2019; Li et al., 2018; Padmadewa & Pamulasari, 2017; Ramshini et al., 2018). The benefits of exposure to nature for children mentioned above are some of the main reasons for the recent emergence of nature exposure programs for children with psychiatric disorders.

Nature Exposure and its Effect on Children. Fresh air encourages children's brains to function optimally (Barkat et al., 2019). In nature, children relax, release tension, and thus children can express their inner feelings more openly (Epp, 2008). Also, new neural pathways are formed in children's brains as they play freely, and discover and experience new emotions in nature (Ramshini et al., 2018). As children explore the world through their sensory system, neural pathways are established and empowered, increasing their capabilities to adapt to the sensory elements of their environment (Ramshini et al., 2018). Nature exposure, in a goal-based manner, is called nature therapy and is a novel technique in which exposure to nature is utilized to diminish the undesirable characteristics of children with psycho-educational problems, such as those caused by traumatic situations, as well as improve their social and interpersonal skills (Berger & Lahad, 2010). According to Berger (2020), integrating nature exposure with more

established indoor interventions (e.g., group therapy and art therapy) can increase the effects of those therapeutic approaches.

The impact of nature on children's well-being initiates prior to their birth (Aga-Shay et al., 2014). Adverse pregnancy outcomes, such as preterm deliveries and low birth weight, are partly related to the mother's lack of exposure to green spaces (Aga-Shay et al., 2014). Pregnant mothers who spend more time in nature seem to deliver healthier children. Interaction with nature after birth can also positively contribute to the cognitive, physical, social, and emotional aspects of children's development (Barakat et al., 2019; Meighan & Rubenstein, 2018). Nature provides a rich and productive environment with various colours, textures, sounds and smells that have the power to stimulate all of the child's sensory systems (Barakat et al., 2019; Harris, 2017; Meighan & Rubenstein, 2018). In nature, children experience climbing and running on various materials, as well as manipulating different objects (Li et al., 2018). Such experiences improve fundamental abilities, such as balance, touch, and motor control (Harris, 2017). Natural elements can catch children's interest and hold their attention for a long time, thus distracting them from undesirable thoughts and feelings they may be dealing with in their lives (Kuo & Taylor, 2004; Ramshini et al., 2018). Outdoor play not only helps to reduce negative emotions, but it also reduces accidents and children are exposed to real dangers. For example, walking on slopes and uneven surfaces in the natural environment challenges children and focuses them on being more alert and in control of their bodies for proper balance (Li et al., 2018).

In children with high levels of stress, motor skills, self-awareness, and relationships with others seem to be impaired (Andersen-Warren, 2013; DeRosier et al., 2011). An effective approach for treating these stressed children involves integrating various treatment programs, focusing on domains of specific behaviours of each child. Integrating these successful

interventions with natural elements seems to add to the advantages of nature exposure to create a promising approach for children under serious stress (Catani et al., 2009; Vice-Reshel, 2016; Wilker et al., 2020). The magnitude of advantages from nature exposure is even more evident when research is done on children with impaired sensory-motor, social and emotional skills, including children affected by traumatic events (Li et al., 2018; Szczytko et al., 2018).

Given the research on the benefits of nature for children's well-being, the present study investigated how Iranian immigrant families were coping with COVID-19 and whether they provide nature-based experiences for their children.

The Present Study

There are a few assumptions guiding the present study: (1) immigration can be a difficult, stressful situation and makes many parents and children vulnerable to stress, depression, and other mental disorders; (2) the COVID-19 pandemic can be also considered as a difficult and stressful situation because of its effects on societal health, well-being, and economic viability around the world. There is also some evidence that (3) nature exposure can improve the mental state of children affected by stressful conditions. The purpose of this study is to examine the experience of Iranian immigrant families during the pandemic to develop a better understanding of the different approaches that the family and children used to cope with it and their experiences with nature-based activities. Meanwhile, as the advantages of nature exposure for children have been unfolding, the current study aims to explore Iranian immigrant parents' perceptions of children's nature exposure before and during the pandemic.

Research Questions. Given that exposure to nature can promote physical and mental health of well-being, families can benefit from outdoor experiences in the natural environment

during the pandemic of COVID-19. This qualitative study is designed to explore the following questions:

- 1- What were the effects of the pandemic on Iranian immigrant families, particularly concerning their children?
- 2- What strategies did the families use to cope with the pandemic?
- 3- What are Iranian immigrant parents' perceptions and beliefs regarding exposing children to nature, opportunities, and challenges?

Method

Research Design

The current study, designed as a qualitative, exploratory study of Iranian immigrant parents in Canada, focused on the effects of COVID-19 on their lifestyle and well-being and the strategies they adapt to cope with the immigrant challenges, the COVID-19 pandemic, and their perspectives and beliefs about children's connection with the natural environment. The research process involved collecting, organizing, and analyzing data.

Participants

Iranian immigrant parents, who have migrated to Canada within the last 10 years and have at least one child between the ages of 3-7 years old, were recruited in a large, urban city in Canada by word-of-mouth and social media groups in the Iranian community. Recruitment lasted for two weeks, at which time a total of 15 parents, one parent from each family, announced interest in participating in the research. Among these interested parents, seven families were eligible to be recruited, given the duration of staying in Canada and the age of the children. Two mothers were between 25-34 years old, and five mothers, including a single mother, were between 35-44 years old and participated in the research. Only one father, between 35-44 years

old, accompanied his wife in the interview. All participants were the biological parents of their children.

Table 1

Demographic Information of the Participants

Family No.	Parents	Age Range		Socio Economic Status		Marital Status	Stay in Canada	Visa Status
		25-34	35-44	Ed.	Income			
1	Farida	*		G	\$100K-149K	Married	Less than 2 Y	Int. Student
2	Helen		*	UG	\$ 25K-49K	Married	Less than 2 Y	Permanent Resident
3	Lily		*	G	\$ 0-24K	Widowed	6-10 Y	Permanent Resident
4	Mahta	*		UG	\$ 75K-79K	Married	6-10 Y	Citizen
5	Maria		*	G	\$ 50K-74K	Married	Less than 2 Y	Temporary Working
6	Mina		*	G	\$ 0-24K	Married	3-5 Y	Permanent Resident
	Ali (spous)		*	G				
7	Shery		*	G	\$ 0-24K	Married	3-5 Y	Permanent Resident

G: Graduate Studies UG: Under Graduate Studies

There is a wide range of duration of stay in Canada for the participants. Three families had arrived in Canada under two years prior (43%), two families reported they were residents of Canada between 3-5 years (29%), and two families had lived in Canada between 6-10 years

(29%). One family has Canadian citizenship, four families were permanent residents, one family was living in Canada with study permits, and one other parent holds a temporary worker visa.

Among the participants, three mothers were full-time employed, while one mother was working part-time. Two mothers were students, and one mother was self-employed. The father had completed his master's program and was looking for a job. All the parents had a university degree. Two mothers had a bachelor's degree, and five of them had more advanced degrees; the father also had several graduate degrees from Iran and Canada.

The participants were also in a wide range of financial status. Three families reported an annual income below \$25,000, one each between \$25,000- \$49,999, \$50,000- \$74,999, \$75,000- \$99,999, \$100,000- \$149,999. No families reported above \$150,000. More detailed information about the participants can be seen in Table 1; the names are pseudonyms.

Participating families had between 1 and 3 children ($M = 2$, $SD = 0.53$), 14 children in total. The children were in a wide range of ages, between 8 months and 15 years old. Eight of the children were female and six were male. One girl and one boy were younger than 3 years old, and one girl and one boy were older than 7 years old; the girl was in her teens. Ten children were between 3-7 years old, with five of each gender. Three families had only one child between 3-7 years old, and the others had two children in this range of ages. The number, gender and age of children in each family are found in Table 2.

Protection of Participant Rights

All the participants were informed about their rights and the study procedure before their participation. They signed the consent form, which provided procedural information and an ethical consent form. The copies of the signed consent forms are protected by keeping it in encrypted files on the researcher's laptop.

Table 2

The Number, Age and Gender of Children in Each Family

Mother's Name	Child 1		Child 2		Child 3	
	Gender	Age	Gender	Age	Gender	Age
Farida	B	3	—	—	—	—
Helen	G	8	G	5	—	—
Lily	B	7	G	5	—	—
Mahta	B	5	B	2	—	—
Maria	B	7	G	4	—	—
Mina	B	6	G	4	—	—
Shery	G	15	G	4	G	8 M

B: Boy G: Girl

Procedure

The data in this thesis project were collected through individual online interviews using social media applications like Skype or WhatsApp. After ethical approval was received from the Office of Research (Appendix A), the primary investigator started the recruitment process. Participants were recruited through word-of-mouth and a call for participants poster distributed in Iranian social media groups, particularly two public groups on the website, Telegram, which each have more than 3000 members (Appendix B). All parents made initial contact with the primary investigator, who introduced herself and her research briefly through a 10–15-minute conversation, discussed further the aims of the study and the procedure, and answered any questions over the telephone.

Once a parent agreed to participate, a time was fixed for an online meeting 3-4 weeks later through Skype or WhatsApp, depending on the participant's choice, as face-to-face

interviewing was limited due to the COVID-19 health protocols. The researcher provided parents with a set of nature-based activities with instructions offering them to choose some of the activities to do with their children during the next 2-3 weeks before conducting the main interview. Also, a copy of the consent form (Appendix C) and demographic questionnaire (Appendix D) was sent to the parents. Before the main meeting, a signed consent form and a filled demographic questionnaire were received from the participants.

Demographic questionnaire. Participants completed a brief demographic questionnaire about their home and family environment (See Appendix D). The parents answered questions such as their age, gender, marital status, number and age of children, education level, type of employment, annual income level, and the duration of time they were living in Canada. Information was also asked concerning their children, such as age and gender.

Nature-based activities. A set of nature-based activities according to the season (See Appendix E) was emailed to the participants as examples of the activities they could do with their children while going outside. This set included 12 simple nature-based activities appropriate to the season, autumn, which families could do easily and with materials that are usually available at home and without having to prepare special materials or ingredients in advance.

Parent interview. The main interview consisted of questions related to (1) the experiences the family has had since the beginning of the pandemic and how the pandemic affected their family life, their children, and the parent-child bonds in the family. In addition, the interview addressed (2) the activities, strategies, and resources, which parents used to alleviate their own or their children's stress and daily experiences, asking how the family coped with the effects of the pandemic; as well as how they coped with no daycare/school for children during

the pandemic, and (3) the family's perception and beliefs in terms of children's exposure to nature, its opportunities, and barriers. The interview was semi-structured as it consisted of open-ended questions, with prompts if needed.

Through the semi-structured interviews with one or two parent(s), narrative data were collected, which allowed the investigator to develop a wide understanding of the participant's experiences with the immigration challenges and the pandemic situations as well as their perspectives of children's exposure to nature. Before administering the main questions, some ice-breaker questions were asked, including "*What was your reason for participating in this research?*" and "*Where are your children during the interview?*" to make the participant feel more comfortable. The purpose of the study, how participants can help, and the procedure was also explained, at which point they were encouraged to ask any questions. Through the process, parents were reminded that they could not answer a specific question or stop entirely at any time. According to the ethical approval, one-hour online interviews through Skype or WhatsApp were audio-only recorded, so participants' non-verbal interactions did not affect data analysis. Later, the interviews were transcribed onto Microsoft Word. All the interviews were conducted in Farsi to ensure that participants could express themselves clearly in their native language. No participant stopped or took a break during the interview. All data from the demographic questionnaires were entered into EXCEL for descriptive information.

Sample Elicitation Questions. Semi-structured interviews included the following questions in three sections. The first section included some questions regarding the effects of the pandemic on the family, such as: (a) the effects of the pandemic on the life and well-being of the parents and parent's perceptions of the effects on their children, and (b) parental concerns, (c) the children's response to the closure and then reopening of the daycares/schools. The second section

concerned some questions about how the parents coped with the effects of the pandemic, such as: (a) which strategies the parents adopted or (b) what resources they utilized to reduce their own and their children's stress, and (c) what kind of support they had in Canada. The third section included the questions relevant to the children's nature-based activities, such as: (a) parents' perceptions about children's experiences with nature and outdoor play, (b) the time they regularly allow their children to connect with nature or the outdoors before and during the pandemic, (c) the activities they implemented among the set of nature-based activities that was sent to them, (d) the barriers that made implementing the activities difficult. These core questions were explored further using "why" and "how" prompts. See Appendix F for the complete list of interview questions. Follow-up questions were conducted via e-mails, calls, or social media messages whenever needed to clarify the participants' responses or get more information to analyze the data. Member checking and debriefing sessions were followed to enhance the study's trustworthiness.

Data Analysis and Coding

Because of the small sample size, information from the questionnaires yielded only descriptive statistics, as reported in the Results section. All interviews were conducted in Farsi, according to parents' preference; then, the participants were asked to read and confirm the data after transcribing. All participants confirmed the data, and nothing was deleted or added.

Then, data was coded in stages. The primary codes were translated into English. To ensure the study's reliability, a second coder fluent in English and Farsi was part of the coding process to interpret the data from different views and ensure that codes were well-defined. Through this collaborative coding procedure, the researcher's bias could also be noted. Meanwhile, Farsi transcripts of one of the interviews were translated into English, then an

English speaker also checked the codes after translation to check the reliability of the study and to make sure about the correctness of the codes. The codes and findings were reviewed in sessions with an Iranian colleague with a Master's and Ph.D. of Education from a Canadian university to minimize measurement error.

According to the phenomenological nature of the study, the in-vivo coding method seemed to be most appropriate to analyze the data, as it could emphasize the actual voice of the parents (Saldaña, 2009). Initially, the collected data were read several times to make sure that the participant's general attitude was captured. Then, the analysis frames were identified about *what* was said in the units of analysis and some descriptive codes were determined (Saldaña, 2016). The language of the participants was largely maintained. In the next step, the most frequent codes were categorized to generate the themes based on (a) relationships between codes, (b) code frequencies, and (c) underlying meaning across codes (Saldaña, 2016). In the third stage, axial coding was conducted to obtain clearer themes with subcategories in a more organized order.

Findings

This qualitative research aimed to examine the experience of Iranian immigrant families during the pandemic to better understand the different approaches that the family and children used to cope with it. It also explored Iranian immigrant parents' perceptions of children's nature exposure before and during the pandemic.

An in-depth interview was conducted with eight parents, seven mothers and one father. It included a set of questions related to the parents' perceptions of the effects of the pandemic on their family in general and particularly on their children's exposure to nature. The researcher also asked them questions about their parenting practices and the strategies they have adopted to cope

with COVID-19 in their new country. The findings derived from coding the interviews were discussed by answering the following research questions:

- 1- What were the effects of the pandemic on Iranian immigrant families, particularly concerning their children?
- 2- What strategies did the families use to cope with the pandemic?
- 3- What are Iranian immigrant parents' perceptions and beliefs regarding exposing children to nature, opportunities, and challenges?

Before describing the findings, a brief description of each parent is presented. All the participants were Iranians who had arrived in Canada within the last ten years and were living in Montreal at the time of the interview. Although the recruitment process was open to both mothers and fathers, only one father showed willingness and accompanied his wife to participate in this project. More details on the perceptions, thoughts and parenting practices described by the participants in their interviews will follow in a later section.

Participants' Backgrounds and Family Context

Farida. Farida and her family arrived in Canada in 2019. Farida was an international student, her husband was working, and their 3-year-old son, Dara, was attending daycare before the pandemic. Farida and her husband had to work online at home during the pandemic. Farida believed that husband and wife should be two separate individuals who could decide about their own lives and need to keep a distance during their life:

The appropriate distance should always be maintained. Not too much, but which is always the case between husband and wife.... The pandemic and online work had reduced that distance, and sometimes there was interference.

Helen. Helen has two children, an 8- and 5-year-old daughter, Hana and Melika. She and her husband arrived in Canada in December 2019, a few months before the pandemic. They were living in a one-bedroom apartment during the pandemic. The highlighted part of her life was that her husband had to work at night and needed to sleep during the day. She needed to manage her daughters to let him rest in the mornings. Meanwhile, she had to entertain her daughters during the time her husband had to work.

We were alone here ... my husband went to work in the evenings and was not with us at night...My children were calm; they were not too small to listen. Until 9-10 (am) they let their father sleep... On weekends, when their father was home, we went out together in groups of four, but whenever he was not present, we were in groups of three.

Lily. Lily is a single mom with two children, a 7-year-old boy, Iman, and a 5-year-old girl, Helma. Her husband was an international student in Montreal and passed away before the pandemic because of sickness. She had no visa status to stay in Canada after her husband's death, so she was ineligible to work or study in Canada. Although both children were born and living in Canada, they received no government support or services such as preschool care and educational services because of their mother's status. It took a long time for her family to be selected by the Quebec government to immigrate to Canada and get a CSQ, Certificate du Sélection du Québec. However, at the time of her interview, she was a permanent resident of Canada. She described her condition as follows:

My children could not go to daycare because of my situation when I got my CSQ, it coincided with Iman going to school in September 2019... it did not take more than five or six months for my kids to be separated from me; otherwise, we would all have been together before...my husband had died, and my condition was no longer stable, I just had

to find out what my status was like, it took two years... I was not allowed to use the public and subsidized daycare. I could not even register my children in a private daycare as there was no support from the government, and I could not afford it.

During the first months of the pandemic, her children were again at home, and the mother believed spending time with them was her most important responsibility since the children did not have a father. However, this responsibility made her feel overwhelmed:

For a single mom, there is no time to rest... people with two children; children would go out in the morning with their father, and their mother would do the house chores. They came out with their mom in the afternoons... I had to take them out in the morning and afternoon... they expected me to play and run with them... I was very overwhelmed.

Mahta. Mahta and her husband arrived in Canada in 2014. They were living with their two sons, Kia and Karen, aged five and two, in a two-bedroom apartment; they moved to a single house in the middle of the pandemic. Her husband was a Ph.D. candidate, working and studying full-time during the pandemic. Mahta was also a college student working part-time at the same time. Mahta believed that the most challenging problem of the pandemic was taking care of two young children at home and managing their sibling relationships, *“we spent more time together ...not spending more quality time... I had to divide my time between two kids... my husband was busy, we had many challenges in how to divide the responsibilities in managing the siblings' interaction.”* She also believed that sharing the household and child-raising responsibilities with her husband strengthened their relationship, *“(It) had a positive impact, when something unfortunate happened, everyone stood to support each other ... he saw the problems of dealing with two kids, and our relationship became stronger.”*

Maria. Maria moved to Canada in February 2020 after some years of living in Germany. She and her husband had decided to come to Canada to continue their studies and work in postdoctoral positions. Maria has a 7-year-old son, Matin, and a 4-year-old daughter, Mitra. She lived in a single rental house for the first year in Canada. During the interview, she talked several times about how renting a single-family house instead of an apartment helped them to cope with the pandemic. However, they had many financial problems related to their re-immigration.

An important strategy we had was to rent a house that year when the kids were at home...it was costly, but it saved us that year. After that, we returned the house because of the heavy price... but it was worth the money we paid.

Mina. Mina has a 6-year-old son, Behdad, and a 4-year-old daughter, Bitra. She and her husband were students and lived in a one-bedroom apartment during the pandemic. Mina's husband, Ali, was the only spouse who accompanied his wife in the interview. Mina lost her father about one year after the pandemic started, and she could not attend her father's funeral ceremonies because of travel limitations. Mina was emotionally distressed because of this loss, as she could not easily mourn when her children were at home most of the time.

... not even a year after I lost my father and Covid-19 made it impossible for me to go to Iran...We were all at home... there was nowhere to go to vent my grief and return.

Shery. Shery is a housewife with three daughters, aged 15- and 4 years old and one 8-month-old, named Sara, Samin, and Selna. She and her family arrived in Canada in 2017. They were living in a one-bedroom apartment during the pandemic. The highlighted part about her life was that her husband worked in Iran and sometimes came to visit his family on vacation. During the pandemic, while he could work remotely, he spent more time with his family in Canada. The

youngest daughter was born during the pandemic, while Shery was alone with her children during pregnancy and childbirth.

COVID-19 made the father realize what he had. He has a wife, a house; he's just not working... to see her children grow up."

Effects of the Pandemic

The first section of the interview pertained to how the pandemic affected each family's life while, at the same time, they were facing immigration challenges. The parents shared their unique experiences on how the pandemic affected their children, marital relationships, and lifestyle. According to the parents, the pandemic negatively and positively affected family lives. The following themes were apparent after three cycles of coding: (a) consequences of the lockdown, including the stay-at-home condition, marital relationships, sibling relationships, daycare and school closures, adults' academic and work procedures, (b) social issues, (c) emotional distress and fatigue, (d) children's stress, (e) Physical inactivity, (f) parental health concerns and anxiety, and (g) reopening of daycares and schools.

Based on the parents' words, each theme spoke of advantages and disadvantages, described in the following paragraphs.

Consequences of the Lockdown

Due to the COVID-19 pandemic, quarantine regulations, including stay-at-home orders, curfews, and other social restrictions, were enforced in the country. All participants explicitly or implicitly emphasized that the most significant pandemic impact occurred in the first months of the pandemic when the country was completely in lockdown.

Stay-at-Home Condition. Despite the parents' stress about their health and that of their children, the first few weeks of the lockdown and school closure appeared to be an opportunity

to rest. The families found an unexpected holiday to stay home and spend time together. In this case, Lily stated that the first week or two of lockdown was an excellent opportunity for them to rest. *“The children stayed home... it was winter... we were overwhelmed, and we rested.”* Helen also mentioned that the lockdown was good for the children as they did not have to get up early to go to school in the cold weather.

However, after a while, the children were under pressure as they could not go out, and all activities were banned. Shery stated that though her oldest daughter was initially happy about the school closure, she was upset as her extracurricular activities were cancelled. *“She was happy that (the school) was closed, but she was upset that other activities were (also banned) like sports which she pursued professionally... and like the artwork.”*

Parents reported that staying at home improved their relationship with their children. Helen noticed she got to know her daughters better and improved her relationship with them. She explained, *“I had not been with them for a long time, I was usually busy, and they were going to daycare and school, it was good that we got closer.”* On the other hand, some parents reported that children staying at home made them disproportionately dependent on their mothers. Helen said, *“The kids were so dependent on me; it was a sick addiction, not a healthy attachment; they wanted to be with me always.”* Shery also stated that her 4-year-old daughter depended on her, *“Samin was always by my side; she was very dependent on me.”*

Moreover, the participants believed keeping children at home while working online raised challenges for family life, the relationship between parents and children, and the relationship between couples. In this respect, Farida said that *“The last day of daycare, I was at the peak of my studies; my husband was working. It was a big shock for me.”* Mina stated, *“It was challenging, the four months we were quarantined in a small place with two kids.”*

In addition to the above, Maria pointed out another specific problem. Maria and her family, who arrived in Canada at the beginning of COVID-19 were having trouble renting a house. Due to the lockdown, the landlords were not willing to show the houses, *“We had submitted a temporary place and wanted to lease somewhere quickly; everywhere was being quarantined, and they would not show the houses. First, we rented an apartment, it was mouldy. It was difficult to cancel, so we went to court. We didn't have any furniture”*.

Participants reported that the lockdown, although providing an opportunity for children and families to rest for the first week or two, disrupted family routines over time. Children became bored and, in some cases, very dependent on their parents.

The Marital Relationship. Staying in the limited space of tiny homes appeared challenging for family members. Mahta believed that despite the increased time spent together during the lockdown, the quality of the couple’s relationships seemed to decrease. She explained, *“We spent more time together, (it) did not mean more quality time... the challenges were getting bigger... challenges in how to entertain and care for each of the kids, how to divide responsibilities, it affected our relationship anyway.”*

Furthermore, Farida believed there should be a standard distance between the couples to keep their marital relationship efficient. She stated that working online at home disrupted their life routine and influenced the stability of their marital relationship.

Early in the pandemic, my husband was still at work (his job) was an essential job; it seemed the routine had been maintained... Then his job changed, he had to work remotely, and we had a lot of ups and downs... distance made life more stable...

However, in some cases, the closure of the daycares and the Stay-at-Home protocol, besides the many challenges it posed for parents in caring for and entertaining their children, positively affected spouses' relationships. Mahta shared:

(It) had a positive impact... (when) something bad is happening in the family, everyone supports each other to cope with it... the father became more aware of how stressful parenting can be, and our relationship became stronger.

Moreover, the quarantine protocols around the world positively affected some families' lifestyles. Shery's husband, working in Iran, found the opportunity to join his family and work online from Canada during the pandemic. Shery stated:

...COVID caused the presence of the father. I think his being at home and talking to the kids significantly impacted the children's upbringing... the father understood what he had. He has a wife, and a home, he's just not working (he could) see his kids grow up.

On the other hand, as a single mother, Lily complained about being overwhelmed due to the huge responsibilities of raising children alone. She believed that couples could support each other and share the responsibilities of caring for the children.

For a single parent, there is no rest ... In families with two parents, the kids would go out in the morning with their father, and their mother would do house chores, then they came out with their mom in the afternoons... but I had to take my kids out in the morning and afternoon. ... both expected me to play with them ... I was so overwhelmed.

In the interview, Mina also talked about a single-parent neighbour who was overwhelmed during the pandemic and mentioned the advantage of cooperation between spouses in caring for children and performing household responsibilities. *"It was great that we were two. I would take*

care of the kids, and Ali would go shopping; if I had a class, he would take them out... but our neighbour, a single mom, found it very difficult.”

Shery also complained about the burden of family responsibilities and taking care of children in the absence of her husband, especially during her pregnancy and childbirth. *“I did all the chores alone. I was alone during my pregnancy, my childbirth and growing up.”* She pointed out the positive effects of her husband’s support when he was present, *“When my husband was at home, he helped me and reduced the pressure on me”*; however, in the absence of her husband, the pressure was on her daughter, as Shery told, *“She was tired when she returned from school, but I was alone, and I usually asked her to help me.”*

In conclusion, although a few parents pointed to the challenges in their marital relationship during the pandemic, most participants believed that the increased presence of fathers at home caused them to witness the challenges of and participate more in raising their children along with the mother.

Sibling Relationships. Sibling conflict is globally common in families with more than one child. Children of different ages have different needs and interests, so it becomes more challenging for parents to care for siblings of different ages and keep them entertained simultaneously. The disagreements may escalate when siblings must spend all day together in the home's limited space. Due to the closure of daycares and schools, children of different ages remained at home, and the task of caring for and educating them fell to the parents, who probably had to work or study from home simultaneously. One of the biggest challenges the participants with more than one child faced during the pandemic was that the children got bored at home, and sibling conflicts escalated. Mina described, *“With two children close in age, I had a problem, (they) are arguing about everything.”* Mahta explained that caring for two boys at

home all day caused her to manage many conflicts between them, *“When the daycares were closed, the first challenge I had was a toddler who wanted full attention like before and another kid, a preschooler, who was also added to the group. There were many conflicts between them”*.

Lily also had a problem with managing the siblings' relationship. She believed that sibling conflicts were more frequent during the pandemic as the children stayed home all day, *“When the kids are at school, they are far from each other, so when they get together there is less conflict. When they are supposed to be together all day, (the conflicts) get so much”*. She added that as a single mother, it was difficult for her to manage the sibling conflict and do her responsibilities at the same time, *“As long as the kids were good with each other, I did my work.”*

On the other hand, Helen believed staying at home improved the relationship between her daughters. *“As we were together, the sisters became much more interdependent. It was good in that respect”*. Maria also emphasized the siblings' pleasure of nature exploration in the pandemic period and did not point out the conflicts between them.

According to the participants, managing sibling disputes seems challenging for parents with more than one child during the pandemic. Due to the daycares' closure, the children stayed home all day, sometimes leading to conflicts.

Daycare and School Closures. In addition to the financial and health problems that families experienced due to COVID-19, daycare and school closures also burdened most of the parents during the quarantine. While many parents had to work or study remotely at home, they also had many challenges in caring for and entertaining their children simultaneously.

Lily was deeply affected by the daycare closure as a single parent. After waiting for her visa status for a long time, her children started to go to daycare just before the pandemic began. School closure made her stay home again with two children. Lily lost the time she had recently

gained to refresh spiritually. She reported that *“It was only 5-6 months since my kids had gone to daycare; they could not go to daycare because of my status before. I just wanted to take a breath, but when the pandemic started, we returned to the drawing board.”* Mina also stated that coping with the pandemic was more difficult while the daycares were closed. *“It was hard to entertain the kids indoors... my son would remember his memories of going out with sadness.”*

In addition to children's boredom and the challenge of entertaining them at home, changes in their behaviour and mental states were another problem for the family. Farida stated that she had difficulty with her son while daycares were closed.

Dara woke up every morning crying like a baby with a feeling that it was again a boring day at home ... our home was small, and he could not run and play... he was in a lousy mood, usually moaning, not sleeping either in the afternoons or at night.

New Iranian immigrant families are concerned for their children to learn the language to be able to integrate into the school environment. School closure had a negative influence on children's academic development and consequently put pressure on the parents. Helen discussed, *“It was painful. My child had not yet learned the language or found any friends, the schools closed quickly, and it was as if we were in a cage.”* Maria and her husband, who entered Quebec with a student visa, were eligible to send their children to English schools. Maria pointed to her concern about her son's English learning while the schools were closed due to the pandemic, *“...he could not strengthen his English. The summer before he went to first grade, I had to get him an English teacher at home ...”*

In addition to the educational problems, the closure of sports and recreation centers also negatively affected student activities. Shery explained that her daughter lost the chance to participate in her favourite activities due to the pandemic.

Sara's activities were (banned)... She was accepted to Tim Hortons' (sports camp), but the camp was cancelled due to the corona (virus), and she lost this privilege that was supposed to run every year. She also lost the sports competitions which were held in schools. The art activities she did at school were also zero. She stayed at home.

In conclusion, although daycare and school closure appeared to be a time for relaxation at home, it disturbed the families' routines, limited the parents' activities, and disrupted the children's academic performance and extracurricular activities.

Adults' Academic and Career Development. Besides the closure of schools and daycares, universities and colleges switched from classroom teaching to online teaching simultaneously. Among the participants in this research, four mothers and two fathers were graduate or postdoctoral students, and three mothers were enrolled in French courses during the pandemic. However, these student-parents had to continue their studies while campuses, libraries, and laboratories were hardly accessible. The participants pointed to the impact of the COVID-19 lockdown on their academic performance in their interviews.

Mina said they had problems attending and paying attention to online classes while the children were home. *"We had a hard time attending our classes, and I had to go to another room."* Mahta also mentioned that her husband had challenges managing time to address all his responsibilities. *"My husband was also a full-time Ph.D. student, he was busy at that time, we had a lot of challenges in how to entertain kids."*

Moreover, Mina's spouse pointed out his problem finding an internship in the last phase of his studies. *"It was the end of my studies, I had to go for an internship, but I could not find one. It was a complicated situation; they (the companies) did not answer us."* Maria and her spouse's academic and work procedures were also affected due to the lockdown in another way.

The limited access to the laboratory made her husband and supervisor dissatisfied with his academic and professional progress. Maria also worked remotely and explained as follows:

I went only to French class or did what could be done online... It has had the biggest impact on me. My husband worked online despite having to go to the lab... the quality of the work went down, and the employer was not satisfied. It was not his fault, but both sides lost. They were not satisfied."

Helen was a nurse in Iran. As a newcomer to Quebec, she needed to be fluent in French to apply for a health-associated career. However, she could not continue learning French because the French courses were closed due to the pandemic. As a result, her progress in adapting to society and job conditions was delayed.

It was only 20 days since my class started, then it was closed everywhere... the effect was 100% negative; the sooner I finished my French class, the closer I got to my nursing job.

The pandemic caused Shery to delay her career development, "I was looking for a daycare for my daughter so that I could start my own activities then; because of COVID, I preferred her to stay home to be safe." Meanwhile, the pandemic also had a negative impact on Shery's business and her mood, as she commented, "COVID caused my communication with people in Canada to decrease and my business to slow down". She added:

Although I was only working online, I was successful and became the first person; it made me feel so good... I would have gone to a big seminar, but COVID caused the ceremony to go online. If it were in person, it would have a much greater effect and motivation for me.

On the other hand, online education had given Shery's husband, who was working abroad, a chance to join his family and work remotely, as she said, "COVID was not so bad for us. Because it made my husband spend more at home, spend more time with family."

This issue was more complicated and stressful for Lily as a single mother who had no financial support as she did not have a work permit in Canada. She would sometimes babysit or ear piercing, which were banned during the lockdown. She also had no support to care for her children when she sometimes needed to do her chores in person, *“The children were always with me. I had to follow the procedure of our immigration after my husband’s death. I had no status to reside in Canada, so my kids could not go to subsidized daycares. I could not afford a private one; I received no governmental support. I had nobody to take care of my kids when I needed to visit the lawyer or the bank”*.

In conclusion, according to the participants, the closure of educational and research institutions and online learning systems disrupted the educational and work process of some parents. It also changed parenting roles for some participants so that they were able to join their families and work remotely at the same time, which they could not do before.

Social Issues

The COVID-19 pandemic was not only a health challenge. It was a global human, economic, and social crisis which influenced societies at their core and significantly impacted human social interactions worldwide. Physical distancing protocols aimed at limiting the spread of the virus have inherently restricted individuals' social interactions, reducing the sense of human social connection with one another. This restriction profoundly affected immigrant families with limited social connections in the new country and made them feel lonely. Gatherings with compatriots, which could alleviate the nostalgia of the newcomers, were banned, so the families spent most of the time alone at home. Mahta mentioned they had a hard time during the lockdown period, as they fully obeyed the health protocols and limited their social relationships to virtual communication. *“We were rigorous people with no in-person*

communication during that period but group video calling with our friends.” Mina stated, “Before, we could gather with friends to reduce our homesickness. (During the lockdown), we had no gathering; everything was virtual, only talking on the phone or video calling; immigration put more pressure on us. We were just ourselves”.

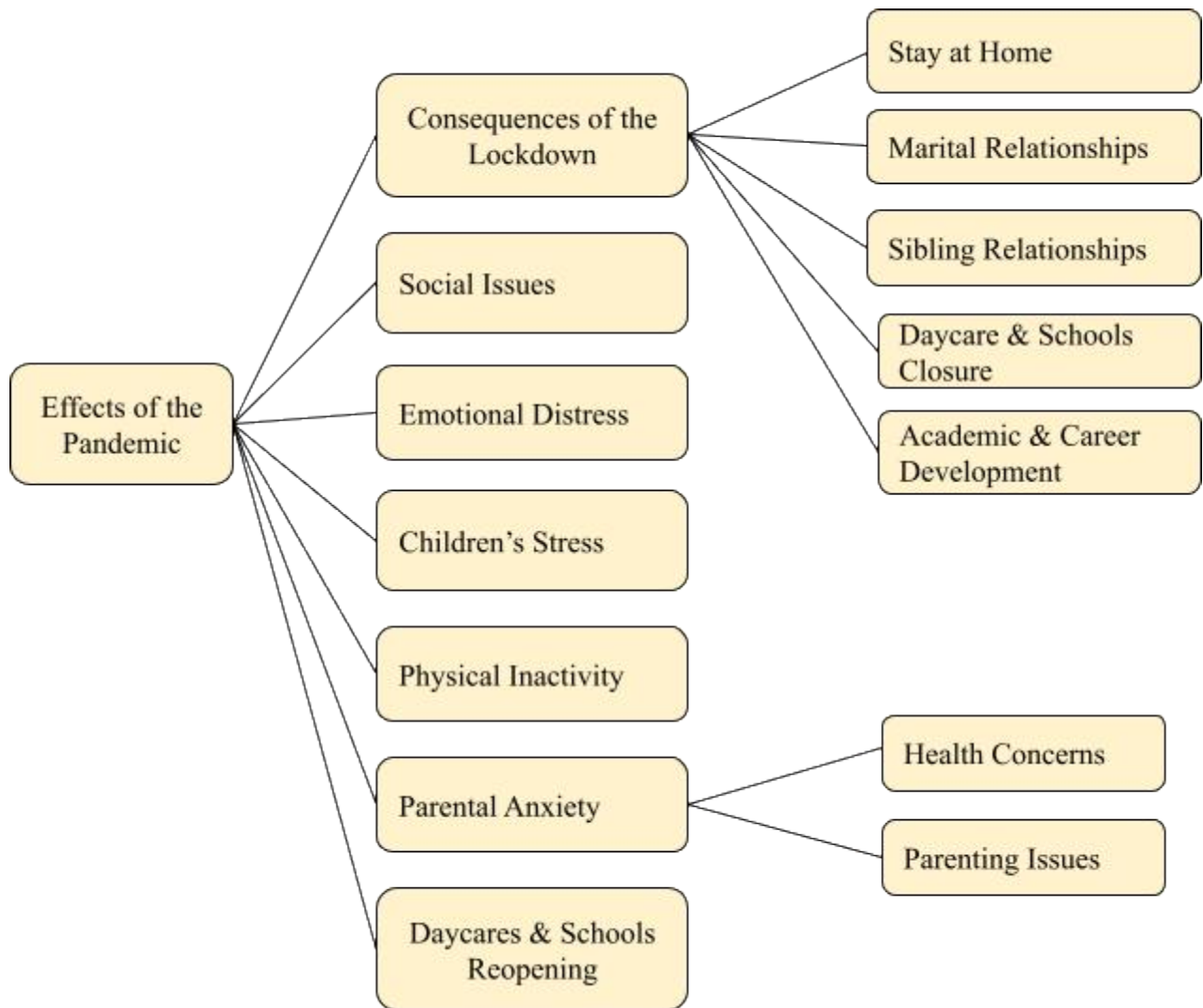
In addition, Shery said that her family's social activities declined to the lowest level, as the religious and cultural ceremonies in Iranian community centers were banned, and gatherings and trips were stopped. She also pointed to the feeling of loneliness, *“Going outside and gatherings decreased. The ceremonies we went to diminished. We have just become ourselves.”* Lily also reported that her children suffered from loneliness resulting from limiting their communication with friends during the pandemic, *“Kids were annoyed about not seeing people; (during the lockdown,) no one saw anyone. It bothered the kids. They missed others”.*

On the other hand, Maria thought that the pandemic did not significantly impact their family as they used to go to natural environments and travel by themselves. She reported, *“We were a nature-loving family ... We didn't have many friends here, only a few of them, and we used to take a walk outside and see them. The four of us always went to nature and travelled.”* Mina’s husband confirmed this concept as he said, *“The impact of COVID might be less for us, as we were naturally far from our relatives due to the immigration and used to have virtual communication. For those who were living near their families, the effect could be more suffering as they could reach their relatives easily, but they had been banned from visiting each other due to the pandemic”.*

In conclusion, immigrants in a new country are usually deprived of family ties, so they form new relationships with compatriots who help them meet the immigration challenges and deal with homesickness. During the pandemic, immigrant families often lost social resources due

to strict restrictions on face-to-face friendships, cessation of cultural ceremonies, and limited communication to tiny family bubbles, which greatly affected socialization. However, it seemed that some immigrant families could be better adapted to social limitations during the pandemic as they were already used to just being together.

Figure 1- The Effects of the Pandemic on the Participants



Emotional Distress and Fatigue

Being alone in the new country and far away from their extended family affected the participants and their children, particularly on special occasions when the relatives got together. For example, Mina lost her father during the pandemic. Still, she could not go to Iran to attend his funeral and mourn because of the travel bans, *"I lost my father, if I went to Iran, I could participate in his mourning and have been better off."*

Helen stated that they also experienced unpleasant feelings during the pandemic. As they had just arrived in Canada and had not settled in the new country yet, limited communication with other Iranian families made them feel homesick and miss their relatives in Iran.

It negatively affected my kids. They thought we were in prison here, and the rest in Iran were happy... It was also quarantined in Iran, but my mother had communication with her daughters. The cousins went to grandma's house, but (my kids) could not do it.

Farida experienced emotional distress in another way. It was hard for her to see that her son had to follow health protocols and social limitations to prevent the spreading of the virus, *"I was heartbroken when Dara pressed the elevator button with his elbow; why should he be afraid of pressing the button? these do's and don'ts bothered me"*. She added, *"The sadness that my child is sitting on the small balcony and seems to be in prison instead of being in the park still exists."* Moreover, Farida got upset when her family could not come to visit them in Canada due to the pandemic, *"My parents wanted to come, but the pandemic caused them to cancel it... it was a heavy emotional burden on me."* Farida also commented she was suffering emotional distress as she could not manage time to complete her tasks and take care of her son at the same time. *"If I were with Dara, I would think about my studies... If I were at my own work, I would think about Dara. I was pulled from both sides. I didn't feel good about any of them."*

Shery's husband was in Iran and could not support her before and after their third daughter's birth due to travel bans, *"I was totally alone during my pregnancy, my delivery and when the child was growing up;"* Shery also claimed that due to the pandemic, she was fatigued as she could not travel to Iran after her third daughter was born, *"It was so difficult... I couldn't go to Iran yet (after 5 years), it made me fatigued."*

According to the interviewees, the shutdown of most activities, including travel bans, profoundly impacted migrant families during the pandemic. In situations like pregnancy, illness or death of loved ones, the presence of relatives can provide great psychological support and influence vulnerable individuals' well-being. This support is highly significant in immigrant families' well-being due to their distance from their home country and relatives.

Children's Stress

Persistent stress, fear, sadness, and uncertainty caused by the epidemic appear to have affected the children and parents. Fear of getting COVID-19 made parents stricter about hygiene than ever before. Restrictions on touching objects, frequently disinfecting hands and food items, and the obligation to wear masks, as well as adults' conversations about the pandemic, were stressful for children. Helen explained that:

Hana would say: "Mom, I'm afraid! What happens if we are affected by COVID?" or she said to her sister: "Don't do that! You'll get Corona"... when I said, "This is the Corona time," They obeyed (the protocols) for fear; they were terrified.

Mina also mentioned her experience with her children's discomfort in quarantine. She reported that COVID-19 limited them to going out, exploring the city, and using public municipal services. *"... we used the subway (before the pandemic); it is such a sweet memory for Behdad that now he is just waiting for germs to go away, then he can go to the subway... Bitia is*

unwilling to wear a mask, so I dislike taking them on the subway." Moreover, Mina noted that her grief over her father's loss negatively affected her children. She reported: *"It subconsciously affected kids. We were all at home, there was no place to mourn and go back to them; they would see me during day and night...Bita used dark colours a lot in her paintings"*.

During the quarantine period, some schools and daycares started holding online classes to interact with their students. Mahta stated that her son hesitated to participate in online classes held by his daycare. She thought that her son would get excited and miss his friends, *"Kia had an online class once a week, he did not want to attend... he was experiencing a false excitement, though he missed his friends"*. On the contrary, Lily explained an amazing idea executed by her child's teacher, *"In front of the schoolyard, on the grass, under the tree, there was a mat for every child, far away from each other, their teacher would read them a storybook,"* She reported her children's joyfulness in participating in the outdoor class at school, *"My children got a lot of energy for that month, and I did too."* Lilly believed that it was the teacher's own initiative, as other schools did not have this activity. Moreover, Lily reported her children's stress in another way. She reported that her daughter was excited when she visited her friend after several months. *"The day Ava came to our home after a long time, Helma hugged her and cried a lot. She had missed her... the kids were bothered by not seeing people"*.

Based on the participants' opinions, children also demonstrated many signs of stress through their thoughts, feelings, and behaviours during the pandemic. Changing the routine of life due to the school and daycare closures, the shutdown of favourite activities, virtual meetings, and communication, the fear of the spread of the virus, and in the worst case, the loss of family members were among the most important causes of stress in children.

Physical Inactivity and Obesity

During the pandemic, the lockdown could impact levels of families' physical activity and increase sedentary behaviour. In the interview, Ali, Mina's husband, pointed out that all family members were affected by sedentary behaviours due to the lockdown. *"Inactivity of all of us."* Mina also described the effects of staying home and inactivity on the family's lifestyle. *"Inactivity is a problem for families and children. Inactivity and eating. Behdad eats a lot, and his mobility has also decreased. Our diverse solution to have fun has gone towards baking cakes; the desire for food has increased."* Shery also stated that her daughter's activity decreased during the pandemic as most of her favourite sports activities shut down, and she was not interested in staying home and entertaining.

According to the interviewees, physical activity levels decreased, and sedentary behaviours and obesity increased during the pandemic in their families.

Parental Anxiety

The COVID-19 pandemic increased stress and worries for parents in different ways, including worries about the virus spreading and children's sickness, as well as concerns about the child's fate in the circumstance of illness or death of both parents.

Health Concerns. Concern about children's sickness made parenting more stressful during the pandemic. Moreover, parents may have felt less comfortable letting their children go out and even start or return to daycare after reopening. Maria's daughter was going to daycare in Germany before arriving in Canada. Maria was worried about the spreading of COVID in daycares, so she preferred not to send her to daycare during the pandemic. *"(Arriving in Canada), I wanted to take her to daycare, but I did not; she sucked her fingers and rubbed her hands everywhere. We did not send her."* Shery also complained that she decided not to send her

daughter to daycare and keep her at home as she was concerned about her daughter's health. *"I was afraid of COVID, I preferred her to be with me at home rather than the stress of sickness."*

The pandemic was a problematic period for Helen as she constantly reminded her children to take care of their health and forced them to follow the protocols. *"It was very stressful. Once we went to the park, I got upset as I told them frequently not to touch anything. They did not remove the mask, or sterilize their hands; we did not go in the crowds."* Farida also reported that she feared the virus spreading during the pandemic. *"I thought, what if I went with Dara to the elevator that somebody had left the virus in? When I took him to the balcony, I was afraid that the next neighbour (was affected by COVID-19). I remember taking him out once and how scared I was."* Lily had more concerns about her children as she had to do all chores alone and had no one to watch them up when she had to go out, *"It was very stressful when I would have to go to the groceries, I had to take them with me. I would tell them not to come in, stand (out). I watched them up through the window."*

The outbreak of COVID-19 has resulted in profound health concerns for parents. According to participants, parents were experiencing a high-stress level during COVID-19 of the possibility of the virus and children getting sick, so some avoided sending their children to daycare, which influenced their job.

Parenting Issues about Children's Custody. In addition to parents' worries about their children's health, parents were also concerned about another issue. Distance from relatives and lack of adequate support left the immigrant families to worry about their children's condition if illness or, in the worst case, loss of the parents occurred.

Farida worried that her son would have no caregiver if COVID affected both parents. *"One of my biggest fears is what if Arman and I both get Corona? What would happen to Dara?"*

Whom should I ask to care for him? I have no family here." Farida added that she was also worried about her son's custody in Canada if something terrible happened. *"I told my husband, 'Let's write a will to leave the custody of the child to our relatives in Iran who can come and care for the child.' A person in Iran has many relatives, but what would happen if both parents got sick or passed away? where should the child go then?"* Helen also reported her concern about her children's fate in Canada if something bad happened to the parents, *"I was scared that if something bad happened to me, they would really get hurt; they had only their father and me."*

Moreover, Farida believed that she put up with a lot of pressure to keep her son away from fears while at the same time warning him of the possible risk of spreading the disease. *I was trying to protect Dara. I felt that I should let him neither be unaware of all this happening nor be afraid of it, so I was under a lot of pressure.*

In sum, the ambiguity of the childcare experiences in the case of illness or death of both parents, at the time of international travel bans, when dependents cannot be in Canada, was one of the reasons for anxiety for immigrant families.

Reopening Daycares and Schools. The participants reported that the reopening of schools and daycares positively impacted their lives, despite the stress of the possibility of COVID spreading. Helen mentioned that when the daycares were reopened, her daughters attended a home daycare in their neighbourhood provided by an Iranian educator where her daughters could interact in Farsi with other Iranian children. *"They were pleased. When the daycares opened, their stress was controlled as they went to an Iranian daycare where they spoke Farsi. Kids felt released from the cage."* Mahta also remembered that her older son had no unpleasant feelings about returning to daycare, and she believed that the conditions were much better after daycares reopened. *"I think he went to daycare with happiness, he was not upset at*

all. When the daycares were opened, 70% of the story was better; everything became almost normal." Mina and her husband agreed that their children had no problem returning to daycare. "I have never heard that Behdad complains or says he did not like to go, or even Bitu, who is younger." On the other hand, Farida reported her challenge when her son returned to daycare as his routine had changed during the daycare closure, "He was annoyed as his routine was gone. When separating, as if he was going to daycare for the first time. We had a challenge for 1-2 weeks." However, after a few weeks, he returned to his previous routine and went to daycare with ease.

In sum, according to the participants' experiences, most children were satisfied with the reopening of daycares and returned easily to daycare;. However, for some, returning to daycare after a long stay at home was challenging and took time for the child to be separated from his parents and return to the former routine of going to daycare.

Strategies

After examining the effects of the pandemic on Iranian immigrant families, the next section of the interview was devoted to investigating the strategies adopted by the participants to deal with these challenges. Answering the related questions, the parents shared how they coped with the challenges of the pandemic and quarantine situation. The following themes were apparent after three cycles of coding: (a) indoor strategies, including art activities, toys, cooking, and indoor sports (b) outdoor strategies, including going to the library and play centers and going outside; and (c) virtual strategies, including virtual communication, online resources, and screen time (See Figure 2).

Indoor Strategies

During the pandemic, one of the most challenging parental responsibilities was entertaining children. Quarantine limitations and Stay-at-Home protocols meant parents had to find solutions to meet children's needs for movement and play while doing their job responsibilities at the same time. The participants adapted different strategies to cope with the effects of the pandemic on their families.

Toys and Games. Young children love to play together, but with the outbreak of COVID-19, daycare and school closures, and the Stay-at-Home protocol, playing with friends was limited. In this way, parents tried to find ways to engage in their children's play despite the limited physical interaction.

Farida mentioned that her primary strategy to entertain her son and keep him happy while doing her own tasks simultaneously was to buy new toys and engage in new kinds of play. *"I was buying different toys online... I was very sensitive to all aspects of the child's development... we could have fun together."* Mina commented: *"I tried to stay calm and start playing games with the children regularly."* In conclusion, some parents seemed to engage in playing with children to entertain and educate them during the pandemic.

Art Activities. COVID-19 resulted in daycare and school closures, so many children continued their education from home. Many families engaged their children with the creative arts at home during the pandemic. Farida reported that she had a good experience making crafts with her son. She believed that talking with her son about the crafts they made together influenced both her son's language development and self-esteem. *"He had a drawer for crafts. We made something every day, then stuck it on the wall and talked about it. He developed in many aspects; he had a delay in his language before; it was more beneficial than toys."* Helen also mentioned

that her daughters were interested in doing art and craft activities. *"We painted all together. They did a lot of handicrafts. I used to buy a lot of painting tools for them."* She believed that making crafts in that period left a lasting impression on the lifestyle and entertainment of children. Mina also stated that they generally did art activities during the pandemic. *"Painting was one of the activities they did every day in the mornings, (they) drew a picture, did an activity, crafted or played a game."* Shery also reported that her second daughter was interested in making crafts and sharing them with their family group on social media.

According to the participants, painting, drawing, and making crafts were the favourite activities of most of the children, so parents engaged in art and craft activities to entertain children during the quarantine period.

Cooking and Baking. Participation in cooking, baking, cleaning up, and other household chores with parents are often rewarding for children. Bringing children into the kitchen and cooking with them or inviting them to help in housekeeping could create an opportunity to entertain the children and take the pressure off the parents simultaneously.

Shery commented that her daughter was willing to participate in cooking and help with household chores with her mother. *"When I cook, she helps. She is willing to help me. (I tell her) Let's clean up, she will definitely volunteer."* Mina said that group cooking was one way they adopted to entertain the children and build joyful moments in the family. *"Our variety had gone towards cooking and baking; let the kids sit down and bake cakes."* Helen also said cooking and house chores were among her strategies to entertain children, *"I kept them busy. We were cooking together. They helped me with housework, such as washing and arranging grocery shopping."*

According to the participants, cooking and baking, besides doing other housework, were common strategies to entertain children and reduce parents' stress during the pandemic.

Indoor Sports. To cope with the inactive lifestyle related to the cessation of most activities during the lockdown, some parents started to do physical activities at home. Mina reported that *"Behdad's mobility was reduced; he also ate a lot. Ali bought a treadmill, so he could at least run on it and drain his energy."* Shery also stated that she exercised at home with her daughter. *"I started training myself at home, she is also exercising with me."*

According to some participants, exercising at home was one of the parents' strategies to cope with limitations in physical activities during the pandemic.

Outdoor Strategies

Public health restrictions caused by COVID-19 led to the cessation of most recreational activities. However, people still needed to have fun to help them cope with the challenges of the pandemic. Individuals are less likely to become infected by the virus when being outdoors. People also feel an emotional boost and less stress; it is safe for children. Therefore, families moved to enjoy outdoor activities close to home, just spending time in a school playground, backyard, or the neighbourhood.

Field Trips, Biking, and Scooting. During the pandemic, while most indoor activities were banned in urban environments, taking advantage of outdoor time, walking outside, and exploring nature was an accessible activity for most people of all ages. Lily commented that she spent much time outdoors as she needed to entertain her children during the pandemic. *"I used the outdoor space, especially the local forest and the schoolyard, which is a great blessing in front of our house...I took them out as much as I could."* Farida, who was stressed about going to public spaces, started to use fresh air on the balcony after the initial fearful period of the pandemic, *"After the initial panic and when the weather was considerably better, we would go to the balcony. We sat in the sun and read books."*

Helen also emphasized that they had a daily field trip schedule to enjoy nature and reduce the stress related to the pandemic.

As soon as the quarantine was lifted, it was our plan to go outside and enjoy nature, the spring of Montreal. I walked for one hour in the morning and 1-2 hours with the kids in the afternoon. They walked, biked, or scooted. When we could go with the mask on, we would take the bus to go downtown. I would not keep them home and be under pressure.

Going to the Library. Library buildings were closed during the lockdown; however, as the government restarted public services, libraries provided limited services for communities and children. One of the libraries' main goals has been to help children stay engaged in reading and learning activities when they cannot physically use the library building.

Maria commented, *"As soon as the library opened, we went there regularly and borrowed books and toys...they show a movie sometimes. I always write our name to watch the movie."*

Lily also shared her experience with a parents' association which provides indoor activities for children, *"A few months after Corona, the summer of 2020, they called me because I had registered my kids there for a long time when my son was only 40 days old. I took the kids there to play. They wanted to restart their work in a limited way, like two families, four children each time. We would set a time and go there."*

In sum, while library buildings were reopened, holding community events like story hours and movie watching, some parents went to the libraries to entertain and educate their children during the pandemic.

Backyard Activities. Despite the effects of the COVID-19 pandemic in the larger society, there were still plenty of activities that families could enjoy in their backyards. Families

who lived in a single house seemed to have more outdoor activities during the lockdown than families living in apartments.

Maria stated that living in a house instead of an apartment facilitated their outdoor activities and positively affected their well-being and coping with the pandemic despite financial problems. *"Our great strategy was to rent a house the first year. With no exception, my husband took the kids to the parks every day to collect firewood from lighting a fire in the fireplace"* She also reported that they had special activities based on the season: *"If it was autumn, we collected leaves, in winter we shovelled snow, we made castles and snowmen all over the backyard. In spring, we were always outside."* Sharing many creative nature-based activities in the schoolyard, Lily stated that despite living in an apartment, she used the school playground next to their building as a backyard during the school closure period, *"There is a school behind our building that is not visible from the street. Considering the fear of spreading the virus in public spaces, we used its playground as a backyard"* Lily added that their neighbours imitated them after a while, *"The neighbours also learned. They would see us in the schoolyard and come too. But the hours were different."* In this regard, Shery, who lives in an apartment, claimed that *"We don't have a yard for them to play; I think the kids are trapped in a cage. I want them to go out and breathe."*

In conclusion, most participants were interested in going outdoors and enjoying nature to different extents, while the health protocols banned other activities.

Virtual Strategies

The third type of strategies adopted by families to deal with COVID-19 focuses on different virtual strategies. The development of technology, the expansion of the Internet, and the

availability of digital devices made it possible for families to use cyberspace and online activities to deal with the challenges caused by the pandemic.

Virtual Communication. Online video-calling is a routine communication method between immigrant families and their relatives in their home country. Moreover, since travel and in-person communication were extremely limited during the pandemic, virtual communication was a practical alternative to socializing with relatives worldwide. Among the participants, Farida reported that she used to video-call her mother daily during the pandemic. *"I was constantly video-calling with my mom for one hour... I called 2-3 times per day."*

Mahta and Shery pointed to another benefit of online communications. Mahta commented that her mother entertained her son via video calls so that Mahta found enough time to do other tasks. *"My mother helped me; Kia could talk to her for an hour, and she told her stories so that I could do other things."* Shery also said that her daughter did some activities with her grandmother through video calls. Besides, they connected with the extended family group via social media. *"My mother talks to Samin about her activities, they sing songs together... Samin's cousin has joined the same online daycare. They share their work in the family group, and the relatives encourage them."*

However, virtual communication was not always satisfactory; it sometimes increased children's homesickness for their relatives in their home country. Helen reported avoiding calling her relatives in Iran in her children's presence because they got homesick, *"My kids got homesick when they talked to Iran. I tried not to call the family when the kids were present so they would be less missed; it could increase their nostalgia."* Lily also stated that her children were uncomfortable communicating with their relatives through video calling, *"My kids don't like to communicate online. They may come only to greet, shake hands and have small talk."* It was

interesting to note that it seemed to be strange even for some adults to communicate virtually with their friends in the city, despite the fact that they were used to communicating online with their relatives in Iran, *“Previously, our gatherings were in person; at first, it was difficult for me to communicate virtually with the friends. I had never experienced it in my life. After a while, I thought there was no choice. We should not have missed the virtual opportunity to socialize”*.

According to the participants, virtual communication was the standard way to connect with family members during the COVID-19 crisis, as before the pandemic. Besides online socializing, the extended families in Iran supported their immigrant relatives in caring for their children. However, in some cases, this method of communication was upsetting for immigrant children who were homesick for their relatives in their home country.

Online Resources. The challenges imposed by COVID-19, such as physical distancing, daycare and school closures, and limited in-person services, all added to parental tasks of entertaining and educating children. To meet this necessity, parents started using alternative online resources.

Mahta reported getting help from online resources as she had to entertain her children at home during the quarantine period. *“I got help from an Instagram page that posted a series of activities, including games, crafts, physical activities and reading.”* Using online applications, Mahta could manage time to entertain her child and do her other responsibilities. *“Kia could listen to a story for 20-30 minutes, someone read a book to him instead of his Dad and me; I got a lot of help from Instagram pages.”* However, Mahta reported that her son was not interested in participating in an online class offered by his daycare.

Lily's children were more interested in physical and outdoor activities, so she was less successful in educating them through online sources. *“I tried to enroll them in a drawing course,*

they attended a trial section, it was useless; online classes don't work for little kids." She, however, sometimes used a parents' community online services to entertain her children. "We participated in the Joujouthèque online program. The kids were not very interested, but it was good as they delivered all the necessary materials at the door and scheduled online programs. We would make a craft or cook."

Shery also used an online daycare service in Iran to educate and entertain her daughter, who had never attended daycare. Shery pointed to her efforts to guide her daughter's online activities: *"Kids have gone to the smartphone and computer as other activities have decreased. We have to direct them to online or offline programs."* Shery's daughter was happy to participate in an online childcare program in Farsi with her cousin and shared her activities with extended families in Iran. *"I was afraid, so I didn't register her in daycare here. She joined an Iranian online daycare."* In addition, Shery's teenage daughter made herself busy with online painting, *"She won't get tired of painting and drawing with the computer all day."*

On the other hand, Farida reported that her son could not use the online services offered by a parents' community center due to the language barrier. *"I joined a group before the pandemic; they scheduled online meetings, so the children could do some exercises and talk together. Dara was not interested because of the language barrier."*

Online educational resources were helpful for parents as well. Mina used parenting materials shared by an Iranian psychologist in an online application to improve her interaction with children and keep the family calm while coping with the pandemic challenges. *"I met a psychologist on Instagram and listened to her lectures. It helped me to be able to control the situation to some extent so that the child would suffer less harm."*

In general, it can be derived from the interviewees that one of the parents' strategies to deal with the challenges of the pandemic was to use online educational resources, preferably Persian resources. In most cases, parents used online programs shared on social media to educate and entertain their children. In some cases, they applied parenting content shared on psychological sites to improve their relationships with their children. However, it seems that the language barrier partly limited the ability of immigrant families to use non-Persian sources.

Digital Screen Time. One of the challenges parents faced during the pandemic was the increasing amount of children's screen time use. Schools were closed; some parents worked at home or studied online while also shouldering the responsibilities of household tasks. Moreover, outdoor activities were also cancelled. Therefore, parents had problems entertaining their children at home during the day. One way to entertain children and parents was through screen time, including watching TV, using computers and smartphones, or playing video games.

Shery said that she showed nursery rhymes and cartoons on TV or on her smartphone to entertain her daughter. *"I show her Cocomelon on TV. I search on Instagram and show her toddler programs."* Helen also said that watching movies was one of their strategies to strengthen their English and French and entertain the children during the pandemic, *"Kids watched cartoons with their father to have fun as well as to improve their English."* Mina stated that according to their home rules, her children were allowed to watch TV only in the afternoon. *"We don't watch TV in the morning. They could watch cartoons for 2-3 hours in the afternoons, not continuously."* She added that they do not allow their children to watch or play with their cell phones.

Although Mahta did not specifically mention any increase in her son's watching TV during COVID-19, her words clearly showed that her 6-year-old son was generally allowed to watch TV for one hour consisting of two 30-minute periods per day. *"We always had a limited*

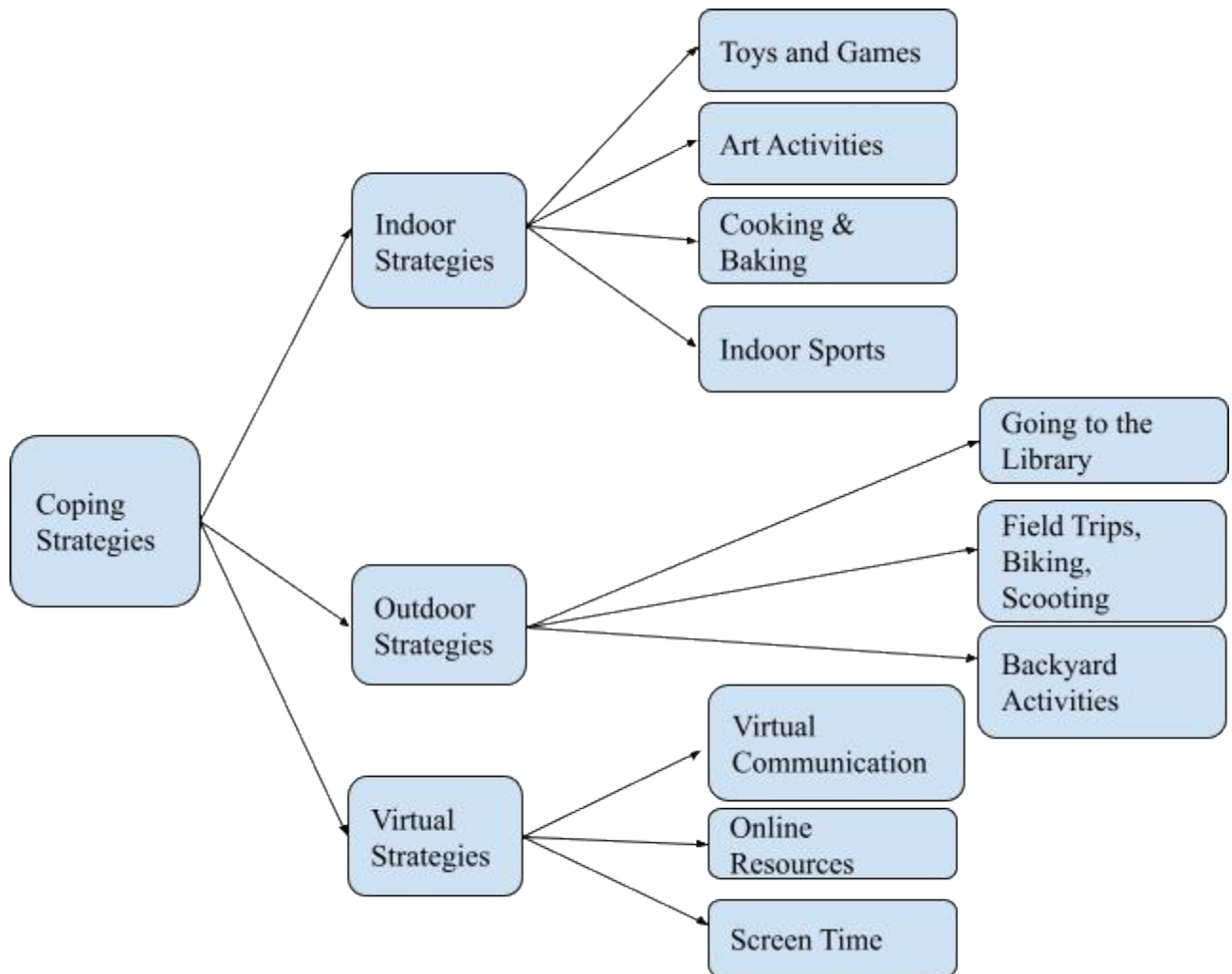
time to watch cartoons, for the 6-year-old child, one hour, not more; half in the morning, half in the evening." Mahta also stated that her elder son preferred to return home to watch TV in the afternoon even when they are outside, *"This has always been our rule, but there has always been a lot of gossip about this rule, as he asks to watch for another 10 minutes. I sometimes think that even when we are out, he waits to come home to watch cartoons."* Mina also confirmed that her children like to go out or party and not watch cartoons; however, her son would sometimes be upset for losing cartoon time if they were outside when he had not had much fun, *"If he didn't have fun outside, he would be upset that he couldn't watch cartoons."*

Lily also stated that her children were very interested in watching TV when they stayed home. *"(When) we got tired, we came home; they rested and (watched) TV."* She also added that they do not have the rule to limit screen time, and it is difficult to ban them from the screen, and even they showed less interest in going outside, *"When we were at home, they always wanted the TV on; it bothered me. They sit in front of the TV like addicts. I said you would be blind. I would turn off the TV, they would take my cell phone. I would turn off the cell phone, they would take the laptop. Whatever I took, they would go to something else, I would take them out very hard."* Only by changing the space by offering a new activity or game could Lily separate the children from the screen, *"I usually try to change the atmosphere. I told them, 'Let's go down to play peekaboo in the lobby, or drop the dry trash off, or turn this plate back to the neighbour.' This is how I lift them."*

Furthermore, Farida also mentioned that when she had to study or complete her other responsibilities, she entertained her son with screen time, although she was not satisfied with it. *"When I had to do something like cook dinner, or submit my assignment, I played a CD to her; I still felt negative."*

According to the interviews, in most cases, using screen time was one of the parents' strategies to entertain their children even before the pandemic. However, some parents mentioned the increase in screen time aiming to cope with the effects of the pandemic during the quarantine period. They also reported children's dependence on digital screens, which caused parents to be concerned.

Figure 2. Iranian Immigrant Families' Coping Strategies



Support in Canada

Although the reasons and types of migration differ in immigrant families, they have similar challenges. When immigrating to a new country, the emotional and social relationships of the immigrant family with relatives and friends in the mother country are lost or faded. On the other hand, the immigrant family needs the support of the host society and the building of new social bonds to be integrated into the host country. This support occurs through gatherings with compatriots, events, religious and cultural ceremonies in community centers of compatriots or non-compatriots, and governmental services for integrating immigrants.

Iranian Community. Newly arrived immigrants must rebuild social networks to obtain needed social support, but they often face difficulties due to various limitations, including language barriers. Most of them have limited access to personal and social resources and rely only on their community of compatriots.

Helen indicated that she had no support except for the Iranian community, "*Only the Iranian community helped, a lady who was the daycare provider, we would call her or talk when I would take the kids there.*" Besides, the language barrier caused her to make friends with Iranians, even in French classes, "*Two Iranian friends I had made in French class, they helped us.*" Farida also stated that she had only Iranian friends to socialize online during the pandemic. "*Two of my friends... one of them was very fearful, she never left home so we could not walk to the park ... sometimes on the phone, we confabulate together. They were Iranian.*" In this respect, Shery said that only her Iranian friends supported her in coping with her problems, "*Only my friends; when I wanted to go to the hospital, one of my friends came with me; I was stressed about the language barrier. Another friend did (grocery) shopping for me when I was pregnant. I had no other help.*"

Mahta also reported that they preferred virtual communication with a group of Iranian friends during the lockdown and some limited outdoor activities afterward, *“Friends and Iranian community; (we were) a group of 3-4 families that we used to plan to go outdoors together before; during the pandemic, our activity was online.”* Maria also added that she related to Iranians through social media to get guidance from people who resided in the same region in that way, *“Iranian community; we joined Telegram groups, it was very effective. Any question you ask, they give outstanding answers. They also support socializing.”*

Mina's husband stated that online socialization with Iranian friends in Canada helped them to reveal the emotional effects caused by the pandemic, *“Our group was also outstanding. 1-2 hours of virtual conversations per week with friends helped us to separate from the pandemic and partially compensate for our emotional deficiencies.”* Mina added that her children were also interested in virtual communication with Iranian children in the friends' groups. *“Behdad and Bitia were very welcoming and loved at the beginning, they saw the kids, made crafts together online, they could talk together.”* However, she mentioned that the children sometimes preferred to watch TV, as their screen time was almost simultaneous. *“It was in the afternoon when I had just allowed them to watch TV, Bitia would come and listen to the story, but the cartoon was more interesting to them.”*

In sum, the interviews showed that the Iranian community was the most significant source of support for the participants in Canada before and during the pandemic.

Community Centers. In immigrant-friendly countries like Canada, diverse communities have community centers that provide their members with social and cultural services to support them emotionally. Moreover, community centers supervised by the government help immigrants integrate into the host society.

Maria indicated that she could get integration and job-finding services from an immigration services office; however, those services were less helpful. *"I got a prime letter from an immigrant services center to find a job. They helped a little in the resume... not significant."*

Lily indicated that a parents' community center offered for her to use the food bank services. *"Joujouthèque once offered me to use the food bank services. They brought a food package at the door only once... most of it was canned food that I didn't use"*. Lily also had a good experience with a non-Iranian community center, receiving a gift package for Easter. *"Once in Easter of the first year, the elderly in the building received food baskets from their community center. They brought a package for me as I had small children. I returned the meat and chicken; there were some other foods such as chocolate."*

In another part of the interview, Farida said that although she used to attend some in-person activities at a non-Iranian community center before the pandemic, *"They sometimes would schedule a park for parents and children, and we would go."* Farida added that her son could not use the online services of the center because of the language barrier, *"They had some online meetings on Facebook for children to exercise and talk to each other. Unfortunately, my son could not use these facilities due to the language barrier."*

In sum, the participants rarely used non-Iranian community center services.

Governmental Support. To minimize the impact of COVID-19 on Canadians, including new immigrants, the government of Canada provided many health, social, and economic supports to address the needs of individuals affected by the pandemic.

Helen reported that governmental financial support during the pandemic allowed her to provide her children with some materials to entertain them. *"The Prime Minister announced that the government would give an allowance to children, 200 to 300 dollars. I spent the money to*

buy many art tools for them, like a canvas; my kids had never worked with it before. I was financially free." Moreover, Helen said that she used immigration services during the first days of arriving in Canada; however, the centers were closed soon due to the lockdown. *"I used Immigration Assistance Services for the first time on the second day we arrived... they closed because of the pandemic so they couldn't help me".*

Mina's husband believed that governmental financial support helped them to cope with the pandemic challenges. *"At the beginning of COVID-19, I lost my funds. The government's financial assistance compensated to some extent."* Lily also indicated that she received governmental financial support as other people received, *"I received the money that the government added to children's benefits and my children's as well."* Mahta added that *"The government's approach was significant. I think the Canadian government was very supportive; it seemed that everything they do is beneficial for people."*

On the other hand, as an international student in Canada, Maria stated that they were ineligible for most of the government assistance they had applied for. *"We asked for government assistance, but they told us we are not eligible."* Lily also reported receiving less financial assistance than others as she could not work or study before due to her visa status, *"I received governmental aid, but not as much as the others; not like someone who was a student. Before Corona, I worked for a while, but it wasn't official to declare that I lost it."*

According to some participants, governmental health and financial support would be helpful to cope better with the pandemic challenges. However, some of the parents were ineligible to receive governmental financial support due to their visa status in Canada. It was interesting that some participants believed that coping with the pandemic was easier for

immigrants as they have struggled with the challenges of immigration and have become more adaptable.

Parents' Perceptions of Children's Exposure to Nature

In the last section of the interview, parents shared their ideas and unique experiences about how they perceived their children's connection to nature and how much they considered exposure to nature an essential element in their children's development and dealing with the pandemic. The following themes were apparent after three cycles of coding: (a) connecting to nature, including advantages and challenges, (b) preferred activities, including the pandemic impacts and (c) the suggested activities provided by the researcher.

Connecting to Nature

Much research has emphasized the numerous benefits of children's nature exposure. However, children's time spent in nature is significantly related to their parent's perceptions and experiences of being in nature.

Helen stated her positive thoughts about being in nature. *"I totally agree that kids should grow up in nature. Their grandfathers had gardens (in Iran) and a small farm; my kids were in contact with animals, plants, and trees."* Farida preferred outdoor activities to entertain her child instead of watching screen time. *"I have always been the opposite of screen time, and I think time is to be spent playing and connecting to the world, with nature, with people."*

Mahta believed that free play in nature could help children relieve stress. *"Being free in nature gives the child the opportunity to practically use all his senses, touch, see, smell, and the chance to be free from his mental stresses."* Mahta had a less clear idea about the effects of nature on children's physical development; however, she indicated that activities in nature could create new experiences for children. *"Running and other natural activities, such as swimming in*

a beach, bring physical benefits. Being in the river creates a new experience for the body, unlike taking a bath; the water is pressing on his body and forcing him to move forward. There are new physical experiences for him."

Maria stated that children deserve to discover the world, *"Kids love to discover, and nature is the best place to discover a new world. When the child goes outside, he discovers and analyzes many different things in his brain; the flower, the bee, the butterfly."* She also mentioned that being in nature provides new learning opportunities for children. *"They are 2, he says come see this mushroom, see that flower, that butterfly. Once we went to the forest, they took photos of mushrooms. When they do physical activity, their energy is also drained."* Besides, Maria believed that outdoor activities are one of the main parts of their lives, *"They are used to doing outdoor activities, it is unreasonable for them not to do."* Mina also stated that, *"We try to keep most activities outside. On weekends, we must be outside for at least one day, we go to the park or the beach or wherever."* Shery believed that connecting to nature positively affects children's development and well-being. *"It is memorable when she is outside in nature; fresh air, seeing colours, watching people, being in a group, all have a great effect on their growth."*

Moreover, parents commented that their children resisted being directed by adults. In this regard, Maria mentioned, *"Kids run away from being guided and controlled by parents in nature. They like to go and explore on their own. When I would show something to my son, he would say: 'How many times do you repeat?'"*. Mahta and Mina also confirmed that their children were independent of the adults. Moreover, Mina stated that her son acted independently and guided them in natural environments, *"Behdad liked to be a guide."*

In sum, it seems that most participants believed in several advantages of nature exposure and outdoor activities for many aspects of children's development. Moreover, the more parents interact with nature, the more the child shows a desire to be in nature.

Advantages. The positive impacts of connecting to nature on children's physical, emotional, social, and intellectual development are undeniable. The parents mentioned many benefits of exposure to nature for both children and parents.

Lily commented that the first two advantages of nature were being free and accessible for all people. *"It's available and free. I don't have to go a long way to get to a park, I have a forest in front of my house full of birds and squirrels and rabbits."* She also pointed to the positive effects of nature exposure on the human spirit as the third advantage, *"It doesn't matter which season it is. With or without kids, nature is relaxing. Why not use it."*

Maria counted some other advantages related to connecting to nature in detail, as they could have fun doing simple activities in nature with no expense. It has several benefits:

Physical activity is good for our health; our lungs become healthy, our body becomes thin, and we walk. The other is that children have no limits, no matter how much they run or scream. They can do whatever they want. There are also many discoveries for their young brains. The other one is that the family can enjoy and have shared pleasure; our eyes are filled with beauty. It's not like going to a restaurant to eat a fancy meal. And the last one: The kids will learn that they can help their bodies without spending a lot of money and have fun and that the culture of going to nature is institutionalized in them. It is both exercise and enjoying nature.

In this regard, Helen commented, *"It makes our spirits soft and gentle; kids can control their emotions better while connecting to nature; their minds are free."* She also stated that

connecting to nature can help children learn to deal with risks in their future life. *"When a child connects to nature, she unconsciously faces many risks. It's not like she's a sterilized child. It tells her that if something happens, she can overcome it."*

Farida also thought that nature exposure could help children to understand the environment and strengthen their sensory skills. *"Outdoor activities help children to know the world better, make their connection with the outside world deeper and strengthen their five senses...it affects their thinking ability... they may become gentle individuals because their knowledge of and relationship with people and even animals are different."*

According to the participants, connecting to nature may help individuals to deal with their emotions, better understand environmental phenomena, and improve their developmental skills.

Challenges. Though the advantages of exposure to nature are undeniable, some challenges prevent families from connecting to nature. One challenge is the weather. The climate in Canada is different from Iran, and newcomer Iranian parents hesitate to let their children be outside in the harsh winter. However, this consideration was less visible as time went by.

In this respect, Helen said, *"When the weather was cold, the children can't go out."* Mahta also believed it was easier to do outdoor activities in summer than in winter. *"We live where the winter is usually so harsh that you can't do many outdoor activities; it's not as easy as going out in the summer. In the summer, you say, let's go out, then everyone is out. But in the winter, going outside means wearing clothes takes half an hour."* Besides, Shery complained that wearing warm clothes is their big challenge when going outside in the winter, *"My kids resist getting dressed. You have to dress them up, this stage is the hardest of all going out."* She also added that she prefers to go outside with a group of friends instead of going only with her family, *"I*

like it when we go with our family, but not as much as when we are with our friends. I like being in a group more than just myself and my family.”

On the contrary, Lily stated that they had a lot of fun outdoors despite the cold weather in the winter. *"The cold weather is a challenge, but it doesn't matter. Whatever you want to do, it has its own challenges."* She reported about many outdoor activities in the winter, like having her son's birthday in an igloo. *"Iman's birthday is in January. We took candles and balloons outside and built an igloo in the snow. We had his birthday inside the igloo."* Mina's children had no problem with outdoor activities in winter, *"They are pleased when the weather gets cold. Because they have planned for winter fun."*

Maria also indicated that the climate situation was never an obstacle for them to go outside, but she pointed to their occupations as a challenge, which made them stay indoors. She commented that children have less time for outdoor activities during school days.

We are very busy with work; otherwise, we are not people who stay home because of the cold weather. My daughter also goes to school every day from morning to afternoon; her desire to go outside is less now she has her own schedule.

Even though many children are interested in free play in nature, some may show less eagerness for nature-based activities. In this regard, Mahta commented that her children sometimes did not engage in her suggested activities. *"You want him to do something, and he doesn't want to do it. I passed this stage, I'll do it myself, and he can join me if he wants."*

According to the participants, although the advantages of children's nature exposure are evident to them, in some cases, parents hesitated to enjoy the benefits of connecting to nature for a child's body, and mind. and well-being due to different challenges.

Preferred Outdoor Activities

Outdoor and nature-based activities have always been among the favourite recreational activities of these parents. Lily reported that she and her children used to have different nature-based activities in the schoolyard according to the season. *"In winter, we would go play in the snow. When there was no snow, we collected plants, looked for animals, or played with a ball. I was walking for myself, kids were playing."* Lily also remembered her children were watching the nesting and hatching process of a pair of pigeons on their balcony, *"The squeakers were gradually greater. The kids were passionate about and waiting for the pigeons to teach their babies to fly, so they could also learn."* She also would take home natural materials for children to play with, *"When the playground in the park was banned, I took home a big bag of sand and poured it on the balcony. I would spread it in the room; they would sit and play with the sand."*

Maria, whose family lived in a single house during the first year of arriving in Canada, mentioned that they had different outdoor activities each season.

We would go to the park and collect wood to fire in the fireplace. In each season, we had the appropriate activities. In winter, we shovelled snow and made castles and snowmen in the backyard. In spring, we were all outside; the kids would bike or skate. In the summer, we would go to the lake every day.

Helen said that although their family had many opportunities to connect to nature in Iran, they were limited in outdoor activities in their first months of arrival in Canada due to the pandemic. *"Just when we came here, the pandemic happened; we could not go anywhere."* Farida also stated that they used to explore every natural space before the pandemic, *"We used to go out a lot; we would open the map; (we would see) there, it is green or is blue, let's go there."*

Mahta reported that they regularly did outdoor activities before the pandemic, *"if it were summer, we would definitely go out for an hour every day. On weekends, we went to the park, forest, hiking, and beach."* Shery added that their children were also interested in playing with natural elements, *"Kids love to work with sand and water."*

In conclusion, all parents indicated that they regularly used to have different outdoor activities before and after arriving in Canada.

The Impact of the Pandemic on Outdoor Activities. It seemed the participants' outdoor activities were affected by the pandemic to some extent. Outdoor recreational sites like national parks were closed; even children's playgrounds in local parks were inaccessible. In this regard, Helen commented that they limited outdoor activities during the lockdown, but after that, they had many outdoor activities around the neighbourhood.

Since we came here, the pandemic has begun. As soon as the quarantine was lifted, walking around was part of our activities. The spring in Montreal is such that the kids should see how the flowers and trees are growing, biking or riding scooters every day.

Farida stated that they limited outdoor activities to use fresh air on the balcony during the lockdown, *"In the quarantine period, we sat on the balcony under the sun, reading books, talking about buses and people on the street. The only safe place was outdoors."* However, they gradually restarted going outside after the lockdown was removed, *"I was scared, but I thought that psychologically we need a lot to go out. We walked in the alley around the home, he played with the birds, and then we returned home."* Mina also agreed that despite the anxiety of the virus spreading, children needed to go out to maintain their mental health, *"Despite the stress of contracting the disease, we take the children to the park to maintain their mental health."*

On the other hand, Mahta indicated that during the lockdown, they would go outside more than before because the children's daily exploration routine in daycare had been stopped.

Before the pandemic, daycares were open, and the child spent some time outside.

Nevertheless, during the quarantine, we walked for an hour daily. After daycares reopened, we went to the park, forest, hiking, and beach only on weekends.

In sum, it can be concluded that though the pandemic limited individuals' socializing, going outside remained people's way of dealing with the pandemic's effects on their families.

Researcher Suggested Nature-based Activities

To encourage the participants to connect with nature, the primary researcher provided a series of nature-based activities appropriate to the season a few weeks before the interview for families to do according to their desire. As mentioned in the interviews, some parents used the suggested nature-based activities, whereas others would schedule other outdoor activities.

Farida confirmed that her son enjoyed some of the suggested activities, “*Activity 1 (Hunt Scavenger); he marked all of them. When we returned home, he rechecked and put another mark next to the ones he had marked before and explained to me. We did two others of them; activity 5 (Bug Hunting), and activity 8 (Mud Play).*” Helen indicated that her children were interested in nature-based activities, “*Yes, my children collected leaves in the yard. They collected stones from the park, painted and returned them to nature. They played in the yard or park and fed the birds... gardening and lawns.*” Mina also pointed to birds and feeding animals as her children's favorite nature-based activities.

According to the participants, some families did one or many of the nature-based activities suggested by the researcher. In contrast, others were satisfied with similar activities they had engaged in before the pandemic.

Discussion

The purpose of this qualitative study was to investigate the effects of the COVID-19 pandemic on Iranian immigrant families and the different strategies they adopted to cope with related challenges. In addition, the participants' perceptions of exposing children to nature and their unique experiences of connecting to nature were examined.

Through in-depth semi-structured interviews, seven Iranian mothers and one father who arrived in Canada within the last 10 years shared their experiences about the impacts of the pandemic and their thoughts and beliefs about connecting to nature. The information expressed by participants was formed around three main research questions: (1) how do Iranian immigrant families cope with the effects of the pandemic, particularly concerning their children? (2) What strategies did the families use to cope with the pandemic? and (3) What are Iranian immigrant parents' perceptions regarding exposing children to nature, its opportunities, and challenges?

Effects of the Pandemic on Iranian Immigrant Families

The first research question aimed to examine how Iranian immigrant families and their children coped with the effects of the pandemic while at the same time, they were facing post-immigration challenges. Questions about the impact of the pandemic on participants were asked to obtain such information. A main finding common to participants was relevant to the consequences of the lockdown, and participants reported both negative and positive effects, which is in line with previous findings (Amirudin et al., 2021; Fioretti et al., 2020, Prime et al., 2020).

Consequences of the Lockdown. The pandemic caused a crisis in global health and economic stability. Moreover, the COVID-19 pandemic globally affected family well-being (Prime et al., 2020). Like many other countries around the world, the Canadian Government

decided to impose lockdown measures to avoid the spread of COVID-19 in March 2020 after the declaration of COVID-19 as a pandemic by the WHO, including the closing of daycares, schools, universities, libraries, and almost all recreational and sports centers. Consequently, children faced a dramatic change in everyday routines and had to stay home with their parents for a long time. It was a major stressor for children and their families and was associated with experiencing psychological distress (Nicoletti et al., 2020). Although some restrictions started to ease over time and daycares gradually reopened at half capacity in July 2020, schools remained closed until the next school year. Recreational and sportive centers remained closed even longer.

A main finding common to this sample showed that COVID-19 had both positive and negative effects on relationships between couples, which is in line with previous findings (Ghaznavi et al., 2022; Wilcox et al., 2020). All participants believed that social isolation and contact limitations in the lockdown period were the most challenging issues of the pandemic. This is in line with findings from Fegert et al. (2020) and Fasano et al. (2021). According to the data, the first few weeks of the quarantine appeared to be a good opportunity to relax, stay at home together and spend time with loved ones; as Lily mentioned, *“It was winter, we were overwhelmed, then we rested”*. Staying together at home also positively affected the couples’ marital relationships and parents’ bonds with their children to some extent. In support of this interpretation, Helen explained that staying at home caused her to improve her relationship with her children, *“It was good that we got closer.”* However, keeping children at home all day resulted in children’s high dependence on their parents, as Helen also said, *“The kids were so attached to me, it was a sick addiction, not a healthy attachment.”*

The collaboration of both parents in taking care of children positively affected their marital relationship, as Mahta reported, *“he became more aware of how stressful parenting can*

be, and our relationship became stronger.” This is in support of the Fostik and her colleagues (2020) study, which indicated that 80% of couples supported each other during the pandemic. In addition, the global quarantine protocols allowed some individuals who worked abroad to join their families in Canada and work remotely. In this regard, Shery reported that “... *COVID caused the presence of the father, (he could) see his kids grow up.*”

However, it was overwhelming for single parents to handle parenting responsibilities at home and spontaneously manage all other responsibilities alone, as Lily said: “*For a lonely person, there is no rest. I was so overwhelmed*”. This is in line with a finding of Garey (2021) that indicated managing children during school and daycare closures could be more overwhelming for single parents than for families with two parents.

Nonetheless, staying together at home all day for a long time, besides the external health and economic crisis, might be a huge stressor on family bonds. Although the amount of time the family members spent together increased, the quality of relations appeared to decrease in some cases. For example, Farida commented that her husband’s remote work influenced their marital relationship, “*He had to work remotely, we had a lot of ups and downs; distance made life more stable.*” This is in line with findings from the Fostik et al. (2020) survey and Prime and her colleagues (2020), which indicated that the significant stress that families experience during disasters like the pandemic may increase the likelihood of marital arguing and conflict in some cases.

Another finding reported by some participants with more than one child was a high conflict rate between siblings. Although sibling conflict is a common issue in families with two or more children (Howe et al., 2022), parents expressed managing sibling relationships was more challenging for them in the lockdown period when children spent all day together at home

(Prime et al., 2020). In support of this finding, Lily complained about her children's disagreements: "... they play together for 15 minutes; they fight for half an hour. When the kids are at school, they are far from each other, so when they get together, there is less conflict...when they are supposed to be together all day, (the conflicts) get so much." In contrast, some parents in the sample believed that staying at home caused greater and more frequent interaction and improved the relationship between some siblings, as Helen reported, "*As we were together, the sisters became much more interdependent.*" Maria also pointed out the siblings' pleasant relationship while exploring nature in the pandemic.

Another common finding reported by the participants was related to daycare and school closures that left parents to entertain and educate their children. Caring for and entertaining children at home while working online or studying limited parents' activities and disturbed the families' lifestyle (Prime et al., 2020). Parents perceived children's boredom and the challenges of entertaining them as a problem for parents. In addition, parents reported daycare closures and varying lifestyle routines resulted in children's temperament changes and emotions and behaviours, which influenced parents' bonds with their children. For example, Farida reported, "*he was in a lousy mood, usually upset, moaning, not sleeping nor in the afternoons nor at night, got up crying in the morning with a feeling that it would be a boring day again at home.*" A similar complaint related to the closure of schools was expressed by mothers whose children's academic development was influenced due to the pandemic; in particular, they were concerned about newcomer children who needed to learn a new language to integrate in the school environment. The closure of recreation and sports centers also negatively impacted students' extracurricular activities. To support this interpretation, Shery mentioned that her daughter got upset for losing the chance to participate in her favourite sport and art activities and entertained

herself with virtual activities due to the pandemic. This is in line with a finding of LaForge-MacKenzie and her colleagues (2022), who demonstrated that participation in extracurricular activities, including sports and arts activities, may cause a decrease in mental health disorders in children and youths.

Moreover, the closure of adult education centers and the switch to online learning with less access to libraries and laboratories disrupted the educational and work procedure of some parents. In this respect, Helen reported about her stop in the French language class that postponed her ability to qualify for a professional job in the new country, *“the sooner I finished my French class, the closer I got to my nursing job.”* Maria also complained about the challenges her family faced in their job because of the lockdown, *“I only did what could be done online. My husband worked online while he needed to go to the lab; the quality of the work went down.”* This view is consistent with previous findings, which demonstrated that the COVID-19 pandemic negatively influenced the goal progress of employees (Trougakos et al., 2020) and the study performance of Ph.D. candidates (Pyhältö et al., 2023). Moreover, Ali, Mina’s spouse, had trouble finding an internship to complete his Master's degree, *“I needed to go for an internship, but I could not find one; the companies did not even answer us.”* This experience is in line with previous findings of the Organisation for Economic Co-operation and Development [OECD] that showed the greater vulnerability of discrimination against immigrants, particularly in a slack labour market (OECD, 2020); however, during the pandemic, this experience was widespread and not just confined to the immigrant communities.

However, the global lockdown and switching to remote working allowed some people who were working far from their families, like Shery’s husband, to join their families.

Social Issues. Newly coming to the host country, in addition to the language barrier, limited Iranian immigrants' social relationships, which in turn, meant they lost the opportunity to interact with non-Iranian people to integrate into the new society. According to the information in the interviews, it seemed that some participants would only make friends and communicate with Iranian people who spoke the same language. In this case, Helen reported that they communicated with Iranian friends even in the French class, and they did most of their shopping from Persian language stores, even online shopping. This finding is consistent with the previous research (Dastjerdi et al., 2012) that indicated that several factors, including language barrier and cultural differences, affected Iranian immigrants' access to social services in Canada.

On the other hand, physical distance, and the limitation of people's social interaction to avoid the virus spreading, profoundly affected individuals during the pandemic. These immigrant families needed to socialize with compatriots, who helped them to deal with immigration challenges and reduce their nostalgia for their home country. As Mahta said, "*Our relationship with our neighbours became zero, we had no communication with anyone during that period.*" This is consistent with Sikali (2020) and Pietrabissa and Simpson (2020), who pointed out the severe negative consequences of isolation on well-being during the pandemic. However, it cannot be overlooked that even though immigrant families are more vulnerable due to being away from their relatives in their homeland, according to the participants, the ability they normally found to establish virtual communication across borders, in some cases, helped them to get through this challenging period more easily as they are normally far away from their relatives in their homeland.

In this respect, Shery, Lily, and Mahta pointed to the positive effects of the long-time online communication between their children and their relatives in Iran. Besides, it seems that

some immigrant families are better adapted to limited social connections due to being far from their relatives in their home country. Accordingly, Maria reported, “*The pandemic didn't have much effect on our children; we didn't have many friends and relatives here, so it didn't matter to us that we couldn't communicate with others because of the pandemic.*”

Parents' Emotional Distress and Fatigue. The pandemic severely affected the mental well-being of families in Canada (Gadermann et al., 2021). However, new immigrants were among those who suffered higher rates of mental health issues than other Canadian families (Ogoe et al., 2022).

A significant element of psychological and emotional distress of this sample was related to the distance from their homeland and relatives, which became more intense due to travel limitations. In the pandemic era, travel bans restricted immigrants' ability to visit their relatives in their home country, and on the other hand, for relatives to travel to Canada to visit their loved ones and help them to deal with the migration stress and homesickness. Travel restrictions were also stressful for immigrant families as they were worried about their relatives' health and sometimes heard bad news from their loved ones in Iran. For example, Mina, who lost her father during the pandemic, could not attend his funeral ceremonies due to the travel bans, “*... I lost my father, we could not go to Iran because of COVID.*” This limitation resulted in her emotional distress, mainly, because she could not even mourn at home while her children stayed at home all day. Farida was also upset because her parents' pre-planned trip to Canada was cancelled due to COVID-19.

Additionally, it was hard for some participants to keep their children away from their friends and have them follow health protocols and social limitations. In this regard, Farida was worried about her son's emotional development as she prevented him from touching objects and

socializing with people outside of her home, “*Dara pressed the elevator button with his elbow, he was afraid of pressing the button*”, and as she said, “*my child is sitting on the small balcony and seems to be in prison, instead of being in the park.*” Moreover, taking care of children at the same time as working or studying was difficult for parents as they felt like inadequate parents and incompetent students or employees. This aligns with the research of Gaderman and her colleagues (2021), which indicated that Canadian parents with children at home were at risk of mental issues and emotional distress during the pandemic compared with other Canadians.

Children’s Stress. Parents reported that COVID-19 also affected children’s mental and emotional states. Understanding parents’ stress due to the obligation of health protocols and social isolation caused some children to experience psychological distress (Imran et al., 2020) and misbehaviour like irritation, aggression and eating or sleeping disorders (CDC, 2022). In this regard, Farida pointed out that her boy’s behaviour had slid back a little due to changing his routine during the lockdown, “*Dara woke up every morning crying like a baby ... He was in a lousy mood, usually moaning, not sleeping neither in the afternoons nor at night.*” The need to comply with health protocols and limited face-to-face interactions negatively affected children's emotions and induced stress and anxiety. Lily mentioned her children's stress and sadness from being away from their friends during the quarantine period, “*Ava came to our home after a long time. Helma hugged her and cried; they were bothered by not seeing people.*”

Moreover, children’s fear of their parents getting sick or dying is clear from Helen’s daughter’s words, “*I’m afraid, what will happen if I get Corona? What happens if you get Corona?*”. According to Dr. Lewandowski (2021), an expert at the Department of Child and Adolescent Psychiatry at NYU Langone, news of the death of relatives may cause stress and anxiety in children. In this respect, Mina, whose father passed away due to COVID-19, also

reported stress signs in her children. Seeing the mother's sadness negatively affected the children, "*Bita used the dark colours a lot in her paintings.*" This aligns with a finding of Dr. Brown (2021), another expert of the Department of Child and Adolescent Psychiatry at NYU Langone, who stated that some children might show signs of stress in their drawing, talking, or playing when they are exposed to stressful events and bad news.

The other issue that caused stress in children was related to online school classes and virtual meetings. The parents reported that though their children were missing their classmates and teachers, the online classes raised excitement and stress in their children. One of the mothers, Mahta, indicated that "*My son had an online class once a week; he was not interested in attending as he was experiencing a false excitement, though he missed his friends and daycare.*" This aligns with a finding that showed some children were not engaged in remote learning (Morin, 2021). On the contrary, participating in an occasional short face-to-face outdoor class brought a pleasant and relaxing experience for Lily's children, "*Under the trees, their teacher would read them a storybook, the children got a lot of energy.*"

Decrease in Physical Activity and Increase in Weight. The impact of the pandemic on the mobility and activity of families and children was evident. Rossi and her colleagues (2021) conducted a scoping review on research about the changes in physical activity levels of children and teenagers during the pandemic. They found that most studies reported a decrease in the duration and frequency of children's physical activity during the lockdown. They emphasized that the stay-at-home protocol resulted in increased sedentary behaviour around the world (Fasano et al., 2021; Moore et al., 2020; Rossi et al., 2021). According to the interviews, some parents of this sample also reported decreased physical activity in their families. Ali, Mina's husband, complained, "*Inactivity of all of us*". Mina also indicated that reduced physical activity

and engaging in fun activities like cooking and baking led to weight gains in family members, *“Inactivity is a problem for parents and kids, inactivity and eating, the desire for food increased. Our diverse solution has gone towards baking.”*

Parental Health Concerns and Anxiety. The interviews showed that the COVID-19 pandemic made parents concerned about their children’s health. According to an economic and social report by Statistics Canada conducted by Findlay and Wei (2021), this anxiety made some parents refuse to send their children to daycare to avoid getting sick. Maria reported, *“I wanted to take her to daycare, but I did not because she rubbed her hands everywhere and sucked her fingers.”* Moreover, parents felt uncomfortable about constantly reminding children about health protocols and the risk of the virus transmission, as Helen explained, *“Once we went to the park, I cried as I told her so much not to touch anything.”* This anxiety made life difficult for some parents. They feared transmitting the virus, so they imprisoned themselves at home. Farida reported that *“when I took him to the balcony, I was even afraid that if the next neighbour (was affected by COVID-19).”* Furthermore, it put extra pressure on parents who tried to make their children not afraid of the situation while warning them of the possible risk of illness. Farida stated, *“I wanted to protect Dara, I should not let him be unaware of the situation, at the same time, not be afraid of it.”* The problem occurred more seriously in single-parent families as the parent might have no alternative care for children when she had to do daily tasks, as Lily mentioned, *“When I would have to go to the groceries, I had to take them with me.”* She also pointed out her struggles to care for her children compared with the families with two parents who collaborated together to care and entertain their children (Garey, 2021).

Another issue was about the ambiguity of immigrant children's guardianship when losing their parents. In Iran, if a child loses both parents, according to the law, the child's guardianship

will be given to the paternal grandfather. If he is not alive or can care for the child, the other relatives are prioritized for child custody. The court will be responsible for determining the child's guardian from among the volunteers' relatives. Only if the child has no relatives who volunteer to be guardians, which is rare, the guardianship of the child is entrusted to the organizations responsible for orphaned children. In this respect, Iranian immigrant parents were worried about the fate of their children if they should die. If they want their children to grow up with their relatives in Iran, what legal obstacles will there be? In this respect, Farida reported her concerns about who would take care of the children if the parents got sick and were hospitalized or, in the worst scenario, died, so that the children would be alone and unattended orphans in a new country far from their relatives in the home country, *“A person in Iran has many relatives, but there is no one here, what will happen to the child if both parents got sick or passed away?”* Also, the findings showed that in single-parent families, this problem was particularly stressful.

The Reopening of Daycares and Schools. As mentioned before, school and daycare closures had a very significant effect on the family's lifestyle. According to the results of the interviews, returning to daycare after a long time was challenging for some young children, although it was satisfying for most children. Helen reported, *“They were pleased when the daycares opened; their stress was controlled.”*

In sum, it can be concluded that while coping with the health, economic, and social effects of the pandemic effects was challenging for people around the world, its combination with the integration process in the host country also made it very difficult for immigrant families.

Coping Strategies Used by the Participants for Dealing with the Pandemic

The second research question investigated the various coping strategies families use to deal with the pandemic challenges. The results showed that entertaining children was one of the

most challenging parental tasks during the pandemic, particularly when schools and daycares were closed. In this respect, among different types of strategies (Lambton Public Health, n.d.) to entertain their children while coping with the pandemic, this sample of parents seemed to engage in the three following types of strategies to alleviate the effects and entertain and educate their children.

Indoor Strategies. Art activities such as painting, drawing, and making handcrafts were described as children's favourite activities by many parents. Parents reported that they often engaged in children's art activities. This is in line with the findings of Choi et al. (2020), who indicated that arts and crafts materials and educational toy sales augmented during the pandemic; in addition, many arts and cultural online programs and ideas were shared through social media. In this respect, Helen pointed to their shared interest in art and craft activities. She reported that she used to buy many art materials for their children and engaged with them in art activities. This finding also aligns with the findings of Gavron and Mayseless (2018), who demonstrated engaging in children's art activities provided a good opportunity for parents to have better communication with their children and promote a stronger parent-child relationship and in turn, an improvement of children's well-being. In addition, talking about their artwork may positively influence children's language, emotional, and social development (Gavron & Mayseless, 2018). Farida particularly indicated this point in her experience of making crafts with her son, "*We made something every day and talked about it. It was beneficial in his language development.*"

Another indoor strategy applied by this sample of parents to lessen the effects of the pandemic was to engage in play with children and have fun together and simultaneously educate them. Farida mentioned, "*I was buying different toys online; I was careful about all aspects of the child's development,*" which is in line with the findings of Choi et al. (2020) about increasing

the online sales of toys during the pandemic. Mina also reported about their group playing at home during the lockdown, "*I tried to stay calm and start playing games with the children regularly.*"

According to the interviews, children also engaged in various forms of helping their parents with housework or cooking and baking activities. Shery reported that her daughter was willing to be involved in cooking and doing household duties. Mina and Helen also talked about common cooking activities to entertain children and make them joyful. This is consistent with Benson and his colleagues (2021), who found children's inclusion in cooking and baking activities increased during the pandemic, and it facilitated the parenting process and led to strengthening the relationship between parents and children.

The last indoor strategy reported by this sample to reduce the effects of the sedentary lifestyle during the pandemic was indoor sports. Mina and Shery stated that they accompanied their children to do some exercises at home. Mina also pointed to providing her family with exercise equipment to do sports at home. This is in line with Moore et al. (2020), who suggested that families turned to indoor physical activities to promote their health during COVID-19.

In sum, the findings show that Iranian immigrant parents used different indoor strategies like art and craft activities, games, household duties, and indoor exercises as ways to adapt their families to the pandemic challenges.

Outdoor Strategies. While quarantine and social distancing regulations during the pandemic caused the suspension of indoor sports and the closing of recreational centers and, as a result, reduced physical activity and social relations of families, many parents sought refuge in nature due to the lower risk of the virus spreading to alleviate the negative effects of the pandemic. This is in line with previous findings that showed an association between natural

space access in neighbourhoods and families, in particular, children's mental well-being during the pandemic (Hazlehurst et al., 2022).

According to the interviews, most parents reported applying outdoor activities to alleviate the negative effects of the pandemic. In reviewing the interviews, the most frequent outdoor activities this sample used were walking around, exploring accessible natural locations, biking and scootering, collecting and artwork with natural elements. However, the families who lived in a single-family homes seemed to have more outdoor activities in their backyards, particularly during the lockdown. Gathering and playing with autumn leaves, snow shovelling and making snowmen, collecting flowers and stones, feeding birds and animals and gardening were included in common backyard activities for those families.

Furthermore, though the library buildings are not outdoor settings, walking or biking to the library just to borrow or check out the books were also reported as activities that helped the parents to encourage children to enjoy outdoor activities. At the same time, this kept them engaged in reading and learning despite the fact that they could not physically use the library building because of the lockdown protocols.

Using Bronfenbrenner's theory, the exosystem, including social policies, laws, and institutional practices, indirectly affects families' lives. In this regard, although not clearly mentioned in the interviews, it should not be overlooked that having fewer cultural resources, including the minimal provision of Farsi books and educational facilities or activities in Farsi by public libraries, can impact Iranian immigrants' children's adaptability skills, in particular when combined with the language barrier.

Virtual Strategies for Coping with the Pandemic. The previous research showed that online programs and virtual activities were among the strategies that families applied to cope

with the pandemic challenges worldwide (Seguin et al., 2021; Toombs et al., 2022). Iranian immigrant families were not an exception. Reviewing the information in the interviews, families even seemed to be generally more adapted to online communication due to being far from their home country; however, travel bans and physical distancing during the pandemic very much limited their social relationships. Thus, virtual communication became the only way to socialize with friends and relatives in and outside Canada. Most parents reported having several online calls with their relatives in Iran, not only for communication but also for entertaining their children. Mahta, Farida, and Shery reported getting help from their family members in Iran to entertain their children through storytelling, singing songs, making crafts, etc. However, it seemed that virtual communication was not always satisfactory, as Helen reported that her daughters sometimes got homesick for their relatives and home country after video calls.

In addition, some of the parents of this sample started using online resources as an alternative to children's education during school and daycare closures. For example, Shery reported enrolling her daughter in an Iranian online daycare program to educate her daughter, who had never gone to daycare. Even after the reopening of daycares, Shery continued to use online daycare services for her daughter as she was concerned about her health. Mahta also stated that she used educational sites and media services to entertain and educate her children while the daycares were closed. However, it should not be overlooked that some children were not comfortable attending online daycare classes and demonstrated some unusual behaviours. Finally, the parents pointed to watching digital screens like tablets, TV or even smartphones to entertain their children before and during the pandemic; however, most of them reported an increase in screen time during the quarantine period. In addition to young children, teenagers also showed increased screen time. Shery reported that her teenage daughter was regularly

exercising before COVID-19; however, she was less active during the lockdown and was mostly at home. Even after the reopening of schools, she spent most of her time in digital painting as other activities outside the school were closed.

Parents' Perceptions of Connecting to Nature

The third research question centred around the parents' perceptions of exposing children to nature. Research shows that parents generally agree that connecting to nature plays a significant role in children's physical health and mental well-being (Hecht & Monroe, 2012). Parents, particularly mothers, have a decisive role in exposing children to nature. They may encourage children to connect to nature and engage in outdoor activities to provide them with a free adventurous activity supporting children's development.

However, children have fewer outdoor activities than their parents in childhood. Parents may limit children's connection to nature and outdoor activities because of their concerns about children's health, safety, and security (Brussoni et al., 2018; Marti & Erbakan, 2021; Skar et al., 2016). Besides, parents' busy schedules may limit their time accompanying their children in outdoor activities. They also may be sensitive to children's clothes getting wet or dirty (Marti & Erbakan, 2021).

Considering this literature, it is essential to pay attention to parents' attitudes about connecting to nature and outdoor activities regarding parents' safety concerns, approaches and understanding of outdoor activities. This prompted the research question investigating Iranian immigrant parents' perceptions and beliefs regarding exposing children to nature, its opportunities, and challenges. Figure 3 presents a visual representation of the advantages and challenges of children's exposure to nature in participants' attitudes, which can be found on the following page.

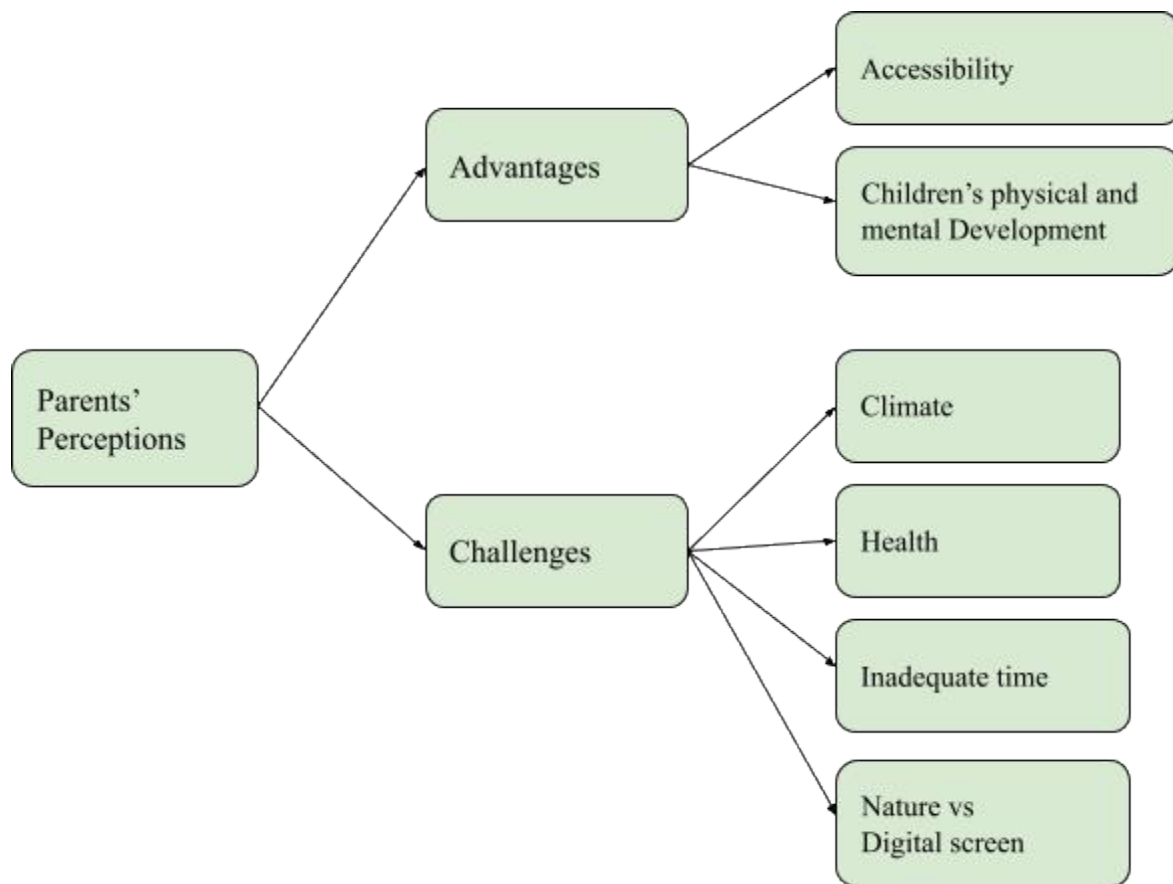
Parents' Perceptions of Outdoor Activities: Advantages

Accessibility. Being free and easily accessible were described by parents as advantages of nature-based activities. While parents need to pay to use most recreational centers, the natural environment is free and easy to access for people of different SES levels. This provides support for the findings, as Lily commented, *"It's available and free. I don't have to go a long way to get to a park."* Farida also pointed to the easy accessibility of natural environments while she stated that they discovered green spaces via maps on her smartphone.

Providing for Children's Developmental Needs. The research emphasized the undeniable benefits of outdoor activities for all aspects of children's development (McCurdy et al., 2010 ; Strife & Downey, 2009). Reviewing the interviews, many parents expressed that connecting to nature helped children to control their emotions better and resulted in improvements in emotional development. Most participants also indicated that having fun activities in nature, like holding a special birthday in an igloo in winter or playing in autumn leaves, was beneficial. Parents also believed that nature exploration together and talking about natural phenomena improved children's language and social development. This finding aligns with the previous study of Strife and Downey (2009), which indicated that connecting to nature improves children's social skills by developing their language and encouraging positive interaction.

In reviewing the interviews, Helen also noted, *"When a child connects to nature, she unconsciously faces many [low-level] risks that she can overcome. It influences her mind and future."* "This comment is consistent with previous findings of Brussoni and her colleagues (2017), which demonstrated engaging in risky play can promote the self-confidence, resilience and also risk-management abilities of young children and even decrease the risk of injury.

Figure 3- Parents' Perceptions on Connecting Children to Nature



Parents' Perceptions of Outdoor Activities: Challenges.

Despite the benefits of nature exposure for children, parents also reported some barriers to connecting children to nature.

Climate. It is normal for children and parents to welcome outdoor activities when the weather is nice and mild. On the other hand, cold weather and a harsh climate is a challenge for most parents to expose their children to nature and engage in outdoor activities (Ernst, 2017; Lee, 2021). These factors encourage families to stay indoors. This challenge could be more significant for parents who originate from countries with a more moderate and warmer climate, like Iran and have difficulty encouraging their children to spend the winter outdoors.

In this respect, Mahta mentioned that nature exploration and outdoor activities in the winter are not as easy to do as in the summer. Helen also stated that the children could not go out in the cold weather of winter. However, some parents disagreed and seemed to have a different perception of outdoor activities. According to Lily, outdoor activities are fun for children despite the cold weather in the winter, *"The cold weather is a challenge, but it doesn't matter at all. Whatever you want to do, it has its own challenges."* She also reported celebrating her son's birthday by making an igloo out of the snow. The climate did not matter for Maria's family either, as she said, *"We are not people who stay at home due to the coldness."*

Children's Health, Safety and Security. Children's safety and security are among the most important concerns of parents during outdoor activities (Ernst, 2017; Marti & Ebrakan, 2021). The findings in this study suggest that there is consistency between access to a safe, secure, dense, and diverse natural space in an urban area and the socioeconomic status of the family and the family's lifestyle (Engemann et al., 2019). According to the interviews, the participants who were living in a house had more opportunities to connect to nature than the others who were living in apartments. In this regard, Maria and Helen reported that their children had a good chance of connecting to nature through nature-based play and activities in their backyard. At the same time, Shery and Farida pointed to their less easy access to the natural settings and worries about children's health when using the common spaces of the apartment buildings. Besides, parents who lived in single houses had fewer concerns about their children's health and spreading the COVID-19 virus during outdoor activities and the dangers that may threaten children in natural environments (Li et al., 2018). According to the interviews, the participants mentioned fewer concerns about children's safety and security in natural spaces.

Inadequate Time. Some parents reported that their children have less time for outdoor activities during school days. This is in line with a finding of Marti and Erbakan (2021) that showed parents' busy schedules may limit them from encouraging children to spend time outdoors. This could be more severe considering that immigrant families may face more educational, employment, and economic challenges to integrate into their new country (Dastjerdi et al., 2012). In this respect, Maria commented that though their family is interested in connecting to nature, she and her husband are very busy with their work, her children also go to school and have their own schedule, so their desire to go outside has decreased.

Nature versus Technology. One of the challenges parents mentioned was the augmentation of children's use of electronic screens during the pandemic when schools and daycares were closed. The findings of this research are consistent with those of Michaelson and her colleagues (2020), that demonstrated that an increase in the use of electronic screens may be inversely related to connecting to nature. In addition to concerns about the harsh climate and the risk of outdoor activities in the natural environment, the addictive nature of digital screens, and the belief that staying indoors is more accessible and safer than being outside, may also be associated with a decrease in children's connection with nature. By stopping or limiting children's use of digital screens, their desire for outdoor activities and nature explorations may increase (Michaelson et al., 2020). Reviewing the participants' interviews demonstrated that although using electronic screens was one of the parents' strategies to entertain their children before the pandemic, most of the parents mentioned the increase in using screen time as a way to cope with the effects of the pandemic during the quarantine period. In this regard, Lily stated that her children were asked to watch TV whenever they were at home.

In sum, according to the findings of this research, parents seem to accept the several advantages of nature-based activities in children's physical and mental development; however, some barriers limit parents from accompanying their children in outdoor activities.

Nature-based activities

Interviewing the participants after sending them a package of nature-based activities provided a better understanding of parents' perception of exposing children to nature as well as the type of nature-based activities they were interested in doing. During the interview, two parents revealed they had never done the suggested activities for different reasons; however, four mothers stated that they tried one or some of the activities with their children. One mother said she paid no attention to the suggested activities, though she did many other diverse nature-based activities.

The most nature-based activities that the families had done were collecting natural elements such as flowers, stones and wood and painting them. Feeding the birds and animals, playing with autumn leaves, and muddy puddles, and making snowmen and snow castles were also reported by parents as the favourite nature-based activities of the children.

Significance of the Study

Though there is much evidence about the stressful situation of the COVID-19 pandemic on families and children around the world, there is little research on the effect of the pandemic on immigrant families and their children's health and well-being. New immigrant families are usually placed in the low socioeconomic level of society, and often have more language and cultural challenges and access to less supportive resources than native people in the host country. Accordingly, immigrant children can be mainly considered one of the most vulnerable groups and different aspects of their development in the sensitive years of early childhood are affected

by the pandemic. Families needed to keep their children from the stress caused by the pandemic, which for immigrant families was more challenging for various reasons, including being away from relatives in the mother country, language restrictions, financial problems, etc. On the other hand, nature exposure and outdoor play can help children to enhance their aspects of development: physical, emotional, social, and cognitive, as well as their well-being.

Given the above-mentioned, this study provided an opportunity to listen to Iranian parents who have immigrated to Canada and are currently living in Montreal, their challenges, and the strategies they have used to cope with their life challenges before and during the COVID-19 pandemic. Identifying the benefits and challenges of children's nature exposure that parents encountered in the complicated situation of the pandemic can alert policymakers and practitioners to the importance of nature-based programs for children's coping with the pandemic impacts.

Role of the Researcher

To conduct this study, the primary researcher investigated the previous literature to build a knowledge base of what has been studied about the topic and consider her values, beliefs, and ideas. Once the research questions were verified, the primary researcher started to recruit eligible individuals for the study. As an interviewer, building a friendly rapport with the participants was significant. The researcher had a short initial interview with the participants before collecting the data. She also explained the concepts whenever needed. Following the data collection, the investigator reviewed the research process and resulted with each parent in a post-interview session to debrief the results and increase the trustworthiness of the research.

The primary researcher's insider perspective, specifically her Iranian origin and migration experiences were useful in better understanding the participants' views and helping them feel

more comfortable during the study. On the other hand, it could probably result in a bias about exaggerating or ignoring the challenges that Iranian families meet in the new country. It was important that she acknowledged her unique experience of immigration from Iran to Canada.

In addition, the academic background of the researcher, having a Master of Environmental Education in the research field of Nature School, as well as providing a nature-based home daycare for children from an Iranian background, allowed the researcher to have an insider perspective and to be understanding, attentive, and empathetic toward participants. On the other hand, the same experiences may have influenced certain emotional responses and biases while conducting the interviews and analyzing the data. The potential bias of the researcher would be her passion and belief in the value of nature exposure in children's development and addressing the children's stress in a difficult situation. It was essential that the researcher was aware of her enthusiasm for nature and outdoor activities, as well as her perception of nature exposure's advantages for children's holistic development and well-being during the research.

The primary researcher ensured that the information derived from the interviews was unbiased. Convenience sampling, two coders, both fluent in Farsi and English, and the awareness of remaining unbiased during the study were the strategies applied by the primary researcher to keep validity and let the participants' voices be heard.

Limitations and Directions for Future Study

Although the study produced rich findings, it also has some limitations. The study was limited by its cross-sectional design, although given the research purpose, this approach was appropriate. One of the possible limitations may be the small number of the participants. The study was based on the interviews of seven Iranian families, seven mothers and one father, who

arrived in Canada as permanent residents or international students during the past ten years and currently live in a French-speaking metropolitan city with a harsh climate in winter; therefore, the findings may not be indicative of Iranians who immigrated to Canada over the past ten years, or currently live in other regions, including English speaking areas, or a region with a moderate climate, or more remote locations in which the services mentioned by these participants may be less accessible. The results may also be different if the study was conducted with Iranian families who immigrated to a country other than Canada or with immigrant families of diverse backgrounds who may experience another migration and integration process.

This research was conducted on Iranian families with typical developing children between three and seven years old; however, one area of future research can be examining children's opinions regarding the activities they chose to deal with the pandemic challenges that can help parents choose better strategies to maintain the family members' well-being. It would be also beneficial to replicate this study with families of adolescents and focus on the challenges they faced during the pandemic, taking into consideration their physical and psychological needs. The findings may also be different for families with children with physical or mental disabilities or with a non-Iranian parent.

Finally, the time frame of the current study did not allow for the collection of longitudinal data on the long-term effects of the epidemic that can significantly help researchers, planners and those involved in social issues.

Conclusion

Stressful experiences in early childhood can affect children's development (Skuse & Matthew, 2015). Any intervention for children needs to be age appropriate and must be developed with respect to the dominant physical and mental development (Skuse & Matthew,

2015). Among many strategies used by the participants to cope with stress in children, providing positive and supportive relationships may have been more significant during the pandemic. Although it may be less feasible in some cases, exploring and having adventures in nature and encouragement to engage in low-risk activities, is a less known technique that can increase families well-being and children's resilience at the same time. Research shows that nature-based healing programs can help children to cope with mental health problems or behavioural disorders (Barkat et al., 2019; Li et al., 2018). Multiple physical, emotional, social and cognitive benefits can be observed through nature exposure to alleviate symptoms of developmental delays or behavioural disorders in children in the covered literature. According to the parents' perceptions, connecting to nature may have positive outcomes in healing the effects of stressful situations like the COVID-19 pandemic in children. However, challenges also need to be considered. Barriers to access to nature in neighborhoods should be addressed. Parents sometimes have concerns about their children's presence outside during the pandemic situation or in harsh weather. An extensive effort should encourage parents to engage in nature-based activities with their children and use the healing power of nature to reduce stress of children and family members in the hard, stressful situation of the pandemic.

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Appendix A- Ethical Approval



CERTIFICATION OF ETHICAL ACCEPTABILITY
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant: Ensiyeh Morakabati
Department: Faculty of Arts and Science\Education
Agency: N/A
Title of Project: The COVID-19 experience for the family and children:
A study of Iranian immigrant families in Montreal,
Canada
Certification Number: 30015380

Valid From: September 22, 2021 To: September 21, 2022

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

A handwritten signature in black ink that reads "Richard DeMont".

Dr. Richard DeMont, Chair, University Human Research Ethics Committee

Appendix B- Call for Participants

CONCORDIA UNIVERSITY

We invite you to participate:

We are conducting a research study designed to investigate how Iranian immigrant parents cope with the Covid-19 pandemic challenges in Canada and their perception of children's play in natural environment.

The research has been approved by Office of Research of Concordia University.

In order to participate, you must:

- be an Iranian parent who has at least one child between 3-7 years old,
- have arrived in Canada in the past 10 years
- be a citizen, permanent resident, or international student in Canada.

-This study includes an online interview which will take approximately one hour.
- It also includes a set of attractive nature-based activities. We ask that you select some to do with your child.
-The interview will be conducted in English or Farsi, depending on you.

For more information or to schedule an appointment, contact me at:
en.morakabati@gmail.com
Tel: (514) 570-0246

دعوت به همکاری داوطلبانه برای انجام یک پروژه تحقیقاتی زیر نظر دانشگاه کنکور دیا و با موضوع نحوه مواجهه والدین مهاجر ایرانی با همه گیری کووید-۱۹ در کانادا و نگرش آنها نسبت به فعالیت کودکان در محیط طبیعی شرایط همکاری:

- خانواده های ایرانی که طی ده سال گذشته وارد کانادا شده اند و اکنون به صورت اقامت موقت یا دائم در مونترال ساکن هستند،
- و حداقل یک فرزند بین ۳-۷ سال دارند.

این تحقیق در قالب یک گفتگوی آنلاین حدودا یک ساعته انجام می پذیرد که بنا به درخواست داوطلب، به زبان انگلیسی یا فارسی صورت خواهد گرفت.

در طول مطالعه، مجموعه ای از فعالیت های مناسب کودکان برای اجرا در محیط باز و طبیعی به والدین پیشنهاد خواهد شد تا تعدادی از آنها را به انتخاب خود با کودکانشان انجام دهند.

در پایان، به یک نفر از داوطلبانی که مورد مصاحبه قرار می گیرند به قید قرعه کارت هدیه ۱۰۰ دلاری اهدا می شود.

برای اطلاعات بیشتر و اعلام آمادگی برای همکاری لطفا از یکی از راه های زیر تماس بگیرید.

ایمیل: en.morakabati@gmail.com

تلفن: 5145700246

Appendix C- Information and Consent Form

Study Title: The COVID-19 Experience for the Family and Children:
A Study of Iranian Immigrant Families in Montreal, Canada

Researcher: Ensiyeh Morakabati
Researcher's Contact Information: en.morakabati@gmail.com
Telephone: (514) 570-0246

Faculty Supervisor: Professor Nina Howe, Ph.D.
Email: nina.howe@concordia.ca
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Faubourg Ste-Catherine Building, 1610 St. Catherine W.

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not.

If you have questions about the scientific or scholarly aspects of this research, please contact the principal researcher or the faculty supervisor. Their contact information is mentioned above.

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

A. PURPOSE

The purpose of the research is to examine the experience of Iranian immigrant families with at least one child between 3-7 years old during the COVID-19 pandemic to develop a better understanding of the different approaches that the families and their children are using to cope with it and their experiences with experiences in nature and the outdoors.

B. PROCEDURES

If you agree to participate, the study will be conducted through the following procedure:

First, you will be asked to fill the online questionnaire emailed you and return it to me. The questionnaire is asking of your age, gender, marital status, number and age of children, income level, education level, employment status, residence (house or apartment), duration of staying in Canada. We will set up time for a one-hour online interview (3-4 weeks later). I also will provide you with a set of nature-based activities suggesting you choose and do at least a couple of them with your children during next 2-3 weeks before the interview. These activities can help you to have a better understanding and experiences of children's play in natural environments.

During the online interview you will be asked about the strategies you have adapted to cope with the pandemic stressful situation and your perceptions of children's experiences with play in the natural environment. The interview will be in English; however, you can continue in Farsi whenever you think it's more comfortable for you. The interview will be recorded. After that, I will transcribe the interview, and translate to English if needed. Afterwards, I will erase the recording. I let you read and confirm the transcription before using the information in my analysis.

C. RISKS AND BENEFITS

You may not face any physical, relational, or financial well-being risks by participating in this research. However, you might (or might not) be uncomfortable because the interview will take about one hour, after work hours during the weekdays or on weekends. To avoid, the interview will be scheduled at your most convenient time.

Also, you may feel some stress in talking about your experiences during the Covid situation. If so, you can stop the interview at any time and if needed, I can provide a list of resources to help you deal with the stress. This research is not intended to benefit you personally, but the findings will clarify the strategies that Iranian immigrant parents have adapted to cope with the pandemic situation in Canada, and their perceptions of children's experiences with play in the natural environment.

The research results could be beneficial to other parents who are interested in the topic of the effect of nature activities on children's stress to back up their parenting behaviors.

D. CONFIDENTIALITY

I will not allow anyone to access the collected data, including demographic information and the interviews, except my supervisor. We will only use the information for the purposes of the research described in this form. The information collected will be coded using numbers; meaning that it will be possible if I needed to reidentify you and the information you provide. I intend to publish the results of the research. However, it will not be possible to identify you in the published results. I will destroy the information five years after the end of the study.

E. CONDITIONS OF PARTICIPATION

You do not have to participate in this research or answer all the questions. It is absolutely your decision. If you decide to participate, you can refuse to answer some questions or withdraw from the research even after the interview. If you decide that you don't want your information to be used, you must introduce your decision during the next month of the interview; then your choice will be respected. There are no negative consequences for not participating, stopping in the middle, or asking not to use your information during the next month after the interview. Your information will be disclosed to the research advisor in cases of the mandatory reporting of child abuse or neglect.

G. PARTICIPANT'S DECLARATION

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described.

NAME -----

SIGNATURE. _____

DATE _____

Appendix D- Demographic Questionnaire

- 1- **Name**
- 2- **Age**
 - Less than 24 years
 - 25- 34 years
 - 35-44 years
 - 45-54 years
 - 55 years or more
 - Prefer not to answer
- 3- **Gender**
 - Male
 - Female
 - Prefer not to answer
- 4- **Age of Children**
 - 1st child,
 - 2nd child,
 - 3rd child,
 - More,
- 5- **Residency Status in Canada**
 - Citizen
 - Permanent resident
 - Student
 - Refugee claimant
 - Visitor
 - Prefer not to answer
- 6- **Education Level**
 - Less than high school diploma
 - High school
 - Some college
 - Bachelor's degree
 - Graduate degree
 - Prefer not to answer
- 7- **Type of Employment**
 - Student
 - Unemployed (looking for a job)
 - Unemployed (not looking for a job)
 - Self-employed
 - Full-time employment, please indicate your job
 - Part-time employment, please indicate your job
 - Prefer not to answer

8- Household Income

- \$0- \$24,999
- \$25,000- \$49,999
- \$50,000- \$74,999
- \$75,000- \$99,999
- \$100,000- \$149,999
- \$150,000 or more
- Prefer not to answer

9- Marital Status

- Single
- Divorce
- Married
- Widowed
- Common law partnership
- Prefer not to answer

10- Residence Type

- Single House
- Condo
- Apartment
- Prefer not to answer

11- Duration of Staying at Canada

- Up to 2 years
- 3-5 years
- 6-10 years
- Prefer not to answer















Appendix E- Nature-based activities





Note: Please consider that you are not required to do all the activities. You should do only ones that you are comfortable with and/or have access to the materials to implement them.

ACTIVITY 1:





Fall Nature Scavenger Hunt. Go outside with your child(ren) and try to do the following sensory activities. Talk to the child(ren) about any item that you could find. Make a copy of the items below so you can check off all that you find.

Look For:





			
<input type="checkbox"/> Flower	<input type="checkbox"/> Falling Leaves	<input type="checkbox"/> Bird	<input type="checkbox"/> Grass
			
<input type="checkbox"/> Spider	<input type="checkbox"/> Butterfly	<input type="checkbox"/> Clouds	<input type="checkbox"/> Mushrooms
			
<input type="checkbox"/> Puddle	<input type="checkbox"/> Ant	<input type="checkbox"/> Sun	<input type="checkbox"/> Branch
			
<input type="checkbox"/> Worm	<input type="checkbox"/> Moss	<input type="checkbox"/> Colorful Leaves	<input type="checkbox"/> Snail

			
<input type="checkbox"/> Fly	<input type="checkbox"/> Bee	<input type="checkbox"/> Squirrel	<input type="checkbox"/> Acorns

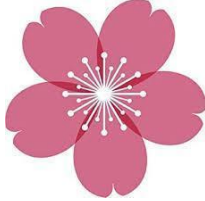



Smell:




			
<input type="checkbox"/> Flower	<input type="checkbox"/> Cedar	<input type="checkbox"/> Leaf	<input type="checkbox"/> Breathing Fresh Air

Listen for:

			
<input type="checkbox"/> Bird chirping	<input type="checkbox"/> Wind	<input type="checkbox"/> Rain	<input type="checkbox"/> Barking Squirrel

Feel/ Touch:

			
<input type="checkbox"/> Flower	<input type="checkbox"/> Tree bark	<input type="checkbox"/> Leaf	<input type="checkbox"/> Rocks

			
<input type="checkbox"/> Rain	<input type="checkbox"/> Soil	<input type="checkbox"/> Pumpkin	




Use:

			
<input type="checkbox"/> Rain Boots	<input type="checkbox"/> Umbrella	<input type="checkbox"/> Raincoat	<input type="checkbox"/> Rake

ACTIVITY 2:

Leaf Crown: Make a lovely autumn leaf crown from fallen leaves collected on a walk on a sunny day. Give your children a strip of white card and ask them to colour it with some autumnal colours. Then let them apply lots of glue using a glue stick along its length and stick some leaves all the way along it. After it is dry, measure the card to fit their head and stapled it together.






			
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ACTIVITY 3:

Nature Inspired Sensory Bottle. Go outside with your child to look for pine needles. Fill a **bottle** about one-third full of water. Put the needles in the bottle. Add a few drops of food coloring if you want. Once the food coloring has spread throughout the water, fill the rest of the bottle with baby oil or cooking oil. Secure the lid tightly. You can make a collection of sensory bottles using wood sticks, flowers, leaves etc. in bottles in different shapes. Shake the bottle and see what happens to the pine needles, oil, and water. These nature sensory bottles can also be used as a calming tool to help your child and you self-regulate.






					
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ACTIVITY 4:

Sand Volcano Experiment. To make a volcano you need water bottle, baking soda, vinegar, sand or mud and food coloring. You can make the volcano in your backyard or balcony. Fill the water bottle 1/2 of baking soda and food coloring. Cap the bottle so no dirt would get in, then set it in the sand. Form a mountain and pack the sand tightly around the bottle to help the volcano hold its shape during play. Have your child pour vinegar into the bottle using and then step back. The volcano will immediately erupt before child's eyes. You may need lots of baking soda and vinegar on hand, because your child may want to make his volcano erupt again and again. Talk about what is happening as you mix the baking soda and vinegar together.



					
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ACTIVITY 5:

Bug Hunting. Sprinkle a little brown sugar on top of an overripe banana and spread it onto the bark of a tree. Check it regularly to see the bugs attracted and tick in a bug scavenger hunt sheet. Encourage your child to use to look through a magnifying glass and draw what they see. You can also check it at night with a flashlight and see if there are any new bugs. You can keep a particular bug in a clear container with a bottle cap of

BUG scavenger hunt



water, a stick, and some green leaves. Cover the container with netting or waxed paper (make sure to poke small holes). Don't forget to return your bug to the place you found him within twenty-four hours.



ACTIVITY 6:

Fairy House: Go to a trip to the park, playground or your backyard and collect as small nature elements. Find a suitable fairy house spot. Make the basic walls from the wood sticks and then rested some bark walls around it. Use grass and tree leaves to make the roof. Add some stones to sit on. Encourage your child to decorate inside and outside of the fairy house with flowers, stones, helicopter seeds, pinecones and everything he thinks will look nice.



ACTIVITY 7:

Clay Face Sculptures: Let your child use sensory clay and loose parts found in nature to create his own face sculpture on a tree.



ACTIVITY 8:

Mud Play: Have your child put on their rain suit and goggles. Add water to the sand in the sand box, or a big bowl, and mix up soil water. Let your child have mud play. Join them and start a messy fight flinging the mud. Then go take a bath.



ACTIVITY 9:

Mud Kitchen: A simple mud kitchen provides children with imagination. Give your child old pots and pans, spoons and measuring cups in the backyard and let them host a tea party for their teddy bears.



ACTIVITY 10:

Orange Bird Feeder.

Mix hot water and gelatin and stir until the gelatin is dissolved. Add the bird seed to it. Cut an orange in half and scrape the rind clean. Poke two skewers through the rind making a cross in the middle. Tie a piece of twine on each side for hanging. Fill the rind with the birdseed mixture and wait till the gelatin set. Hang it on a tree or on a dead branch in a pot on your balcony. Observe the birds that come to eat from the feeder. You can count the number of birds and talk about the colors of their feathers, size and calls. You will probably attract butterflies too.



ACTIVITY 11:

Pinecone Bird Feeder. Collect pinecones in any shape or size; just gather the open ones. Tie a cotton string to the end of each pinecone. Have your child cover the pinecones with peanut butter completely and roll the pinecones in birdseed. Hang them on a tree or on a dead branch in a pot on your balcony. Observe the birds that come to eat from the feeder. Count the number of birds and talk about the colors of their feathers, size, and calls.



ACTIVITY 12:

Rock People Family. Head outside with your child and collect some rocks. Have your child draw facial features on the rocks' surfaces and make a family of little rock people. Use double sided tape to decorate them with flowers, seeds, pine needles, etc. you collected around your neighborhood. You can name the rock people like your family, dad, mom, brother, and sister. Engage in your child's play and tell them a nice story about your family and have the child make up a story about their rock family.



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Appendix F- Main Interview (one hour)

Introduction

I have greatly appreciated your participation in this research study and your willingness to share about your experiences. Please let me remind you that the interview will be audio recorded; also, please note that you can refuse to answer some of the questions and can withdraw from the research without penalty within next month. If so, your choice will be respected, and the interview and questionnaires will be destroyed. If you have any questions or concerns, please don't hesitate to contact me via email or phone. Again, thank you so much for your time and effort that made this research study possible.

Section 1-

- How has the pandemic affected your family life? How has the pandemic affected your child(ren) and the relation between you and your child(ren)? Can you give me some specific examples?
- Which strategies, activities or resources have you had to alleviate your own or your children's stress? How successful do you think these strategies are?
- How do you cope with the effects of the pandemic? How did you and your children cope with no daycare/school for children during the pandemic?
- How has your child responded to the reopening of the daycares/schools?
- What kind of support do you have in Canada, such as family, friends, community, etc?

Section 2-

- What is your perception about children's experiences with nature and the outdoors? Which outdoor activities did your family engage in before the pandemic? Does your child have a preferred kind of outdoor activity?
- How much time per day/ week/ month did you allow your children to connect with nature or the outdoors during the pandemic? Have these activities changed during the pandemic? If so, please explain how they have changed.
- Have you implemented any of the nature activities I sent to you? Why or why not?
- Did you and your children enjoy some activities more than others? If so, which ones? Were there some activities that you and your children enjoyed less than others? What do you think was the benefit of nature-based activities for your child(ren) and family?
- Were there challenges that made it difficult to implement the activities? Please explain why or why not?
- Will you continue to build nature activities into your daily/weekly lives?
- In conclusion, how well do you think that you can cope with the pandemic challenges?