

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

EVALUATION OF PROGRAM IMPLEMENTATION AND OUTCOMES AMONG
TWO MONTREAL-BASED NURTURE GROUPS

THESIS
PRESENTED
IN PARTIAL FULFILLMENT
OF THE DOCTORATE OF PSYCHOLOGY

BY
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NOVEMBER 2023

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

ÉVALUATION DE L'IMPLANTATION ET DES EFFETS DE DEUX *NURTURE GROUPS*

BASÉS À MONTRÉAL

THÈSE

PRÉSENTÉE

COMME EXIGENCE PARTIELLE

DU DOCTORAT EN PSYCHOLOGIE

PAR

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ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my thesis supervisor, Dr. Melina Rivard, for her mentorship and encouragement. Thank you for taking a leap of faith with me when my intuition was urging me to change research topics at the eleventh hour and for standing by me through life's trials and tribulations over the last six years. You have been a great source of inspiration and I feel privileged to have had the opportunity to study under the supervision of such an esteemed researcher and clinician.

I would also like to thank Dr. Andrew Bennett, director of the Montreal Nurture Group program, for his invaluable collaboration on this research project. Thank you for the countless hours spent reviewing my work, for the early morning and late-night discussions, for your intellectual generosity and for believing in my potential so confidently that I began to believe in myself too. I have found a great friend in you.

My gratitude extends to the incredible Nurture Group staff. Thank you for sharing my excitement about this project and for volunteering your time. I am also deeply grateful to the students and families without whom this project would not have been possible. Thank you for your trust and belief in the importance of this research.

Thank you to my friends and lab colleagues for their moral support, for making themselves available to help at the drop of a dime and for celebrating my victories along the way.

Thank you to my parents, Susan and Terry, for instilling in me the values of integrity and hard work and for teaching me to be resilient. Thank you for fostering my interest in academia and for encouraging me to find my own path. I wouldn't be where I am today if it wasn't for you.

Lastly, I would like to express my appreciation to my wife, Laura, who was nine months pregnant with our son at the time of my thesis defence! Thank you for your kindness, patience and unconditional love, and for holding me up as we crossed the finish line. You are one of a kind!

DEDICATION

This thesis is dedicated to my parent for their unwavering support throughout my academic career and for celebrating every milestone, big and small, along the way.

You are the most compassionate, humble and generous people I will ever know. My heart is filled with gratitude for all that you have sacrificed to make my dreams come true. You are my biggest source of inspiration and I am so proud to call you my parents. We made it!

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RÉSUMÉ

De 2017 à 2022, les Directeurs de la protection de la jeunesse (DPJ) du Québec ont enregistré une augmentation de 38 % du nombre de signalements de maltraitance et une augmentation de 23,2 % du nombre d'enfants dont la situation nécessite une intervention continue de la protection de la jeunesse (ex. : placement en famille d'accueil) (Directeurs de la protection de la jeunesse, 2018, 2022). Alors que cette tendance est alarmante, les données sont particulièrement préoccupantes pour la population la plus vulnérable de la province, c'est-à-dire les enfants âgés de moins de cinq ans. Depuis 2017, les enfants de 0 à 5 ans représentent environ 23 % des mineurs pris en charge par la DPJ, dont près des trois quarts sont victimes de maltraitance répétée avant l'intervention de la DPJ (Hélie et al., 2019). Considérant le lien bien établi entre les traumatismes interpersonnels en début de vie et l'adversité scolaire (Carrion & Wong, 2012), l'absence de programmes spécialisés en milieux scolaires, approuvés par le ministère de l'Éducation et dédiés aux enfants qui ont été privés d'une saine protection parentale, consiste en une occasion ratée pour soutenir un sous-ensemble grandissant de la population des élèves du Québec. Les *Nurture Groups* (NGs) consistent en une intervention scolaire répandue au Royaume-Uni, développée pour les enfants dont les donneurs de soins primaires ne leur ont pas permis de vivre de saines expériences d'attachement en bas âge. Par conséquent, lors de leur entrée à l'école, ces enfants présentent des déficits marqués dans leur fonctionnement social, émotionnel et comportemental. Les chercheurs ont observé que ces élèves ont beaucoup plus de chances de voir leur fonctionnement scolaire s'améliorer après un an de placement dans un NG (Hughes & Schlösser, 2014). Inspirée par l'adoption généralisée des NGs au Royaume-Uni, une commission scolaire anglophone de Montréal, au Québec, a mis en place de manière indépendante deux NGs qui fonctionnent à temps plein depuis 14 ans. Pour évaluer les mérites de cette intervention dans le contexte du système éducatif québécois, les parties prenantes de la commission scolaire ont cherché à établir un partenariat de recherche officiel avec les auteurs. Une évaluation complète du programme, composée de deux études complémentaires, a été menée au cours de l'année scolaire 2020-2021. La première étude a utilisé une méthode mixte pour explorer la mise en œuvre du NG et a révélé un haut degré de fidélité aux principes fondateurs et aux fondements théoriques du modèle classique du NG. Cette enquête a également mis de l'avant certaines adaptations organisationnelles nécessaires pour répondre au contexte éducatif et aux ressources au sein de cette commission scolaire (c'est-à-dire l'adaptation du modèle NG). La deuxième étude a utilisé un modèle de pré- et post-test pour évaluer le progrès des élèves âgés de 6 à 9 ans (N=12) après une année de participation au programme NG de Montréal. Dans l'ensemble, les résultats ont révélé des améliorations significatives des comportements problématiques (p. ex., agression, retrait), du fonctionnement exécutif, du concept de soi et de la relation élève-enseignant. Ces résultats sont encourageants et pourraient intéresser les intervenants en éducation d'autres régions, compte tenu de la tendance à la hausse des signalements de mauvais traitements enregistrés par la DPJ à l'échelle de la province. Il convient toutefois de noter que la généralisation des résultats est limitée par la petite taille de l'échantillon des études ainsi que par des variables externes propres à la pandémie de Covid-19. Des recherches plus approfondies pour évaluer les avantages de cette adaptation particulière du NG pour les élèves québécois sont justifiées. De plus, dans le future, les évaluations de programmes devraient systématiquement inclure une recherche sur l'implantation de ces programmes afin d'être en mesure d'identifier les éléments clés responsables des résultats positifs chez les élèves et renforcer davantage les preuves en faveur des NGs.

Mots clés : évaluation de programme, *Nurture Groups*, maltraitance

ABSTRACT

From 2017 to 2022, the Directors of Youth Protection (DYP) in the province of Quebec recorded a 38% increase in the number of reports of maltreatment and a 23.2% increase in the number of children whose situation necessitates continuous youth protection involvement (e.g., foster family placement) (Directeurs de la protection de la jeunesse, 2018, 2022). While this trend is alarming, the data is particularly concerning for the province's most vulnerable population, children under the age of five. Since 2017, children aged 0-5 years have accounted for approximately 23% of minors under the care of the DYP, nearly three quarters of whom are victims of repeated maltreatment prior to the DYP's involvement (Hélie et al., 2019). Considering the well-established link between early life interpersonal trauma and school adversity (Carrion & Wong, 2012), the lack of school-based specialized programs endorsed by the province's Ministry of Education for children who were deprived of healthy nurturance is a missed opportunity to support a growing subset of the student population. Nurture Groups (NGs) are a popular school-based intervention in the United Kingdom for children who missed out on healthy early attachment experiences with primary caregivers and who, as a result, present with marked impairments in social, emotional and behavioural functioning upon school entry. Researchers have consistently found that students are significantly more likely to exhibit improvements in school functioning following one year of NG placement (Hughes & Schlösser, 2014). Inspired by the widespread adoption of NGs in the UK, one anglophone, Montreal, Quebec-based school board independently set up two full-time NGs that have been in continuous operation for the last 14 years. To evaluate the merits of this intervention in the context of the Quebec education system, school board stakeholders sought a formal research partnership with the authors. A comprehensive program evaluation composed of two complementary studies was conducted over the course of the 2020-2021 academic year. The first study utilized a mixed-method design to explore NG implementation and revealed a high degree of fidelity to the founding principles and theoretical underpinnings of the classic NG model. This investigation also revealed certain organizational adaptations that were required to meet the educational context and resources within this particular school board (i.e., variant NG model). The second study utilized a pre- and post-test design to evaluate students' response to intervention (N=12, ages 6-9 years) following one year of participation in the Montreal NG program. Overall, results revealed significant improvements in externalized and internalized challenging behaviours (e.g., aggression, withdrawal), executive functioning, self-concept and student-teacher relationship. These results are encouraging and may be of interest to educational stakeholders in other regions considering the increasing trend in reports of maltreatment recorded by the DYP province-wide. It is worth noting, however, that the generalizability of results is limited by the studies' small sample size as well as by external variables unique to the Covid-19 pandemic. Further investigation to evaluate the benefits of this particular NG variant for Quebec students is warranted. Moreover, to be able identify the key ingredients responsible for positive student outcomes and further strengthen the evidence in support of NGs, future program evaluations should systematically include implementation research.

Keywords: program evaluation, Nurture Groups, maltreatment

INTRODUCTION

The term *developmental trauma* was introduced by van der Kolk (2005) to distinguish the experience of multiple or chronic adverse interpersonal events in early life (e.g., abuse and neglect) from other forms of acute (e.g., natural disaster) or chronic stress (e.g., routine invasive medical treatments). Among the many later problems associated with developmental trauma such as reductions in brain integrity, obesity, alcoholism, and depression (Afifi et al., 2014; Felitti et al., 1998; Gilbert et al., 2015; Kaffman, 2009), marked relational difficulties in childhood are one of the earliest signs (Bowlby, 2000). In the absence of protective factors, repeated maltreatment by a primary attachment figure can lead to the development of an insecure or disorganized style of attachment along with a variety of attendant social, emotional, and mental health (SEMH) difficulties (Cyr et al., 2010; Taylor, 2012). Children who present with SEMH challenges at school entry consistently have greater difficulty forming cohesive relationships with peers and teachers (Anthonysamy & Zimmer-Gembeck, 2007; Kim & Cicchetti, 2009) and struggle to meet grade-level academic expectations (Carrion & Wong, 2012; Shonk & Cicchetti, 2001). Repeated experiences of failure reinforce a negative self-concept (Runyon & Kenny, 2002; Toth & Cicchetti, 1996) and as early school-aged children tend to cope with distress behaviourally, the range of problematic manifestations is wide (Blaustein & Kinniburgh, 2019).

In Quebec, a bilingual province in Canada, there is clear indication that a growing number of children are being reported as having experienced early life maltreatment. From 2017 to 2022, the Directors of Youth Protection (DYP) recorded a 38% increase in the number of reports of maltreatment and a 23.2% increase in the number of children whose situation necessitates continuous youth protection involvement (e.g., foster family placement) (Directeurs de la protection de la jeunesse, 2018, 2022). Of particular concern is the fact that nearly three quarters of children aged 0-5 years who are under the care of the DYP are victims of repeated maltreatment prior to the DYP's involvement (Hélie et al., 2019). Despite rising rates of early life maltreatment and the well-established link to school adversity (Fry et al., 2018; Romano et al., 2014), there are unfortunately no specialized programs endorsed by the province's Ministry of Education that explicitly aim to support students who were deprived of healthy nurturing in early life. In the United Kingdom (UK), however, over 2000 schools and the public school boards of England, Scotland, Wales, and Northern Ireland have adopted an intervention known as Nurture Groups (NGs) (nurtureuk, 2019). Developed in the 1970s by educational psychologist, Marjorie Boxall, NGs were designed to offer reparative attachment experiences within the school setting (Boxall, 2012). More specifically, Boxall sought to provide children with the

opportunity to re-experience early nurturing care in a safe, predictable environment wherein the development of a secure and trusting relationship with a secondary attachment figure (i.e., the teacher) would act as a vehicle for improved self-regulation, self-worth, and overall school functioning. Operationally, Boxall describes NGs as a short-term intervention for children aged four to eight years in class groups of up to 12 students led by a teacher and teaching assistant. The NG runs as a contained class, decorated to resemble both home and school, and there is equal emphasis on educational, domestic and play-based activities. Although Boxall's description of the day-to-day operations within a NG lacks specificity and data on NG implementation is limited (Mackay, 2015), research on the intervention's efficacy has consistently found that students who participate in a NG program for at least two terms are significantly more likely to demonstrate improvements in school functioning than students who remain in their mainstream classrooms (Cooper & Whitebread, 2007; Hughes & Schlösser, 2014; Shaver & McClatchey, 2013).

Inspired by the widespread adoption of NGs in the UK, one anglophone, Montreal, Quebec-based school board independently set up two full-time NGs that have been in continuous operation for the last 14 years. The primary impetus for this decision was the observation that an increasing number of students were beginning their school careers with a documented history of involvement with the DYP, many of whom presented with SEMH difficulties of an intensity that compromised mainstream classroom inclusion. Like most NGs in the UK (Cooper, 2004), the Montreal NGs represent variant NGs; more specifically, they are NGs developed based on the founding principles of Boxall's classic NG model and adapted to the context of the province's education system and resources. To explore implementation practices within these variant NGs and to measure student outcomes, Montreal NG stakeholders sought a formal research partnership with the authors on a comprehensive program evaluation presented in this four-part thesis. Considering the lack of interventions aimed at supporting students with a history of developmental trauma, the results of this investigation may also be of interest to educational stakeholders in other regions of Quebec.

The first chapter is a literature review of the main research areas underpinning this project: childhood maltreatment statistics in Quebec, developmental trauma and NG implementation and effectiveness. The program evaluation framework is also discussed. The second chapter is an article entitled, "Classroom as a Secure Base and Safe Haven: Nurture Group Implementation in Two Montreal Schools." This mixed-method study consisted of four objectives aimed at investigating the degree to which the Montreal NG program was being carried out as intended. In addition to addressing the paucity of implementation data

within the global NG research base (Balisteri, 2016; Kearny & Nowek, 2019), data obtained through this study served to enhance the validity of conclusions that can be drawn about the results of the second study measuring student outcomes. It is important to note that implementation fidelity to Boxall's classic NG model was not evaluated considering the lack of concrete guidelines available. Instead, implementation fidelity was evaluated according to the guidelines established by the Montreal NG team which reflected their understanding of the expectations of a classic NG. To accomplish this, the first objective was to develop a comprehensive and measurable program description of the Montreal NGs, known as *Logic Model* (Chen, 2015). This was achieved through a collaborative process between the researchers, the original developer of the Montreal NG program (i.e., the clinical director) and the NG team. The resulting Logic Model was used as the basis for an evaluation of the program's organizational fidelity (i.e., adherence to the intended allocation of resources and services), objective 2, and personnel fidelity (i.e., adherence to expectations for teacher behaviour in the classroom), objective 3. The fourth objective was to investigate NG personnel's perception of the facilitators and barriers to NG implementation. The third chapter is a companion article entitled, "Reaching and Teaching Students: Using Nurture Groups to Improve School Functioning Among Montreal Children with Developmental Trauma." This article utilized a pre- and post-test design to measure student improvements within the areas identified in the Logic Model as intended short-term intervention outcomes: student-teacher relationship, self-concept, executive functioning and overall SEMH functioning. Together, these studies provide detailed insight into the variant NG intervention, including the resource investment required to run the program (e.g., financial cost, staffing, materials, services) and the overall benefit to students. Both articles featured in Chapters 2 and 3 were published in Volume 8 of the *International Journal of Nurture in Education* (IJNE). Lastly, Chapter 4 is a discussion integrating the results and clinical implications of the studies' findings. Methodological strengths and limitations of this investigation are shared along with directions for future research.

CHAPTER 1

LITERATURE REVIEW AND PROGRAM EVALUATION FRAMEWORK

There are four main areas of literature on child development that are at the heart of this program evaluation. First, childhood maltreatment statistics reported by the province's DYP will be discussed. Next, the research base on developmental trauma will be presented as NG participants are routinely found to have experienced significant early life adversity of an interpersonal nature. Third, the evidence in support of NGs will be explored, including program implementation and student outcome data. Finally, the program evaluation framework on which this evaluation was built will be reviewed.

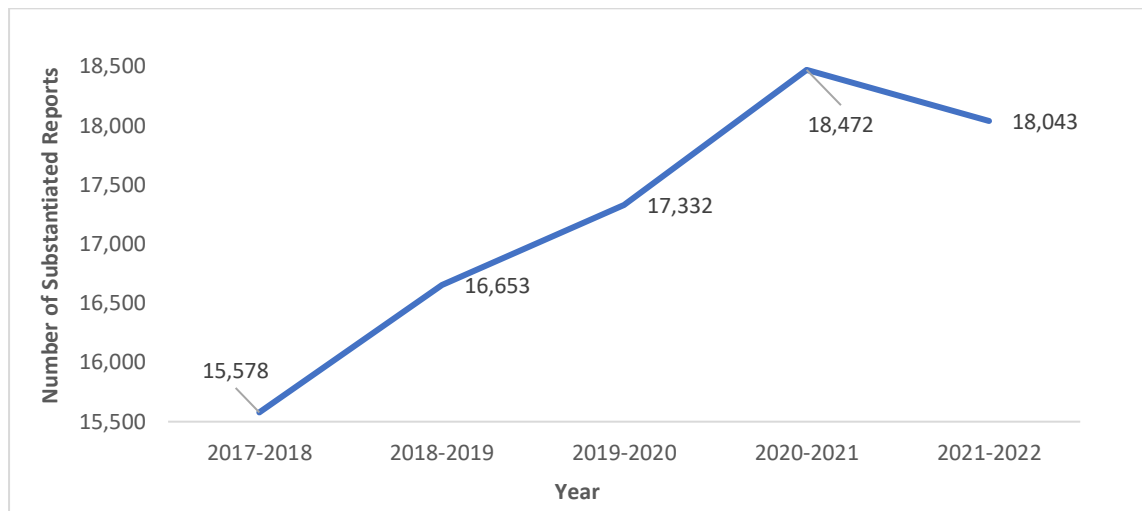
1.1 The Prevalence of Childhood Maltreatment in Quebec

The DYP in each region of Quebec is mandated with the responsibility of enforcing the Youth Protection Act (YPA, 2022). The purpose of the YPA is to protect persons under the age of 18 whose security or development is in danger or at serious risk of being in danger. More specifically, the DYP intervenes in response to situations of neglect, psychological ill-treatment, physical abuse, serious behavioural disturbances, sexual abuse, and abandonment. When the DYP is alerted to a concerning situation involving a minor, a decision is made as to whether the report should be retained for evaluation. If the DYP determines that there is reason to be concerned for the security or development of the child based on the facts shared by the informant, the report is retained for evaluation and the validity of the claim will be investigated. According to data collected by the DYP across all regions of Quebec, 132,632 reports of maltreatment were received in 2021-2022, representing a 38% increase since 2017-2018. Among reports received, the DYP deemed it necessary to retain 43,668 for evaluation, of which 18,043 were subsequently found to be substantiated situations of maltreatment, an alarming 15.8% increase over the same five-year period (Figure 1.1). Moreover, the number of children in Quebec who are under the care of the DYP has increased by 23.2% (Figure 1.2).

A closer inspection of maltreatment data reveals that neglect, psychological ill-treatment and physical abuse have consistently accounted for the majority of maltreatment reports found to be substantiated following investigation over the last five years (i.e., 2017-2022). These forms of maltreatment are also the main reasons children are placed under the care of the DYP. Meanwhile, situations of sexual abuse and

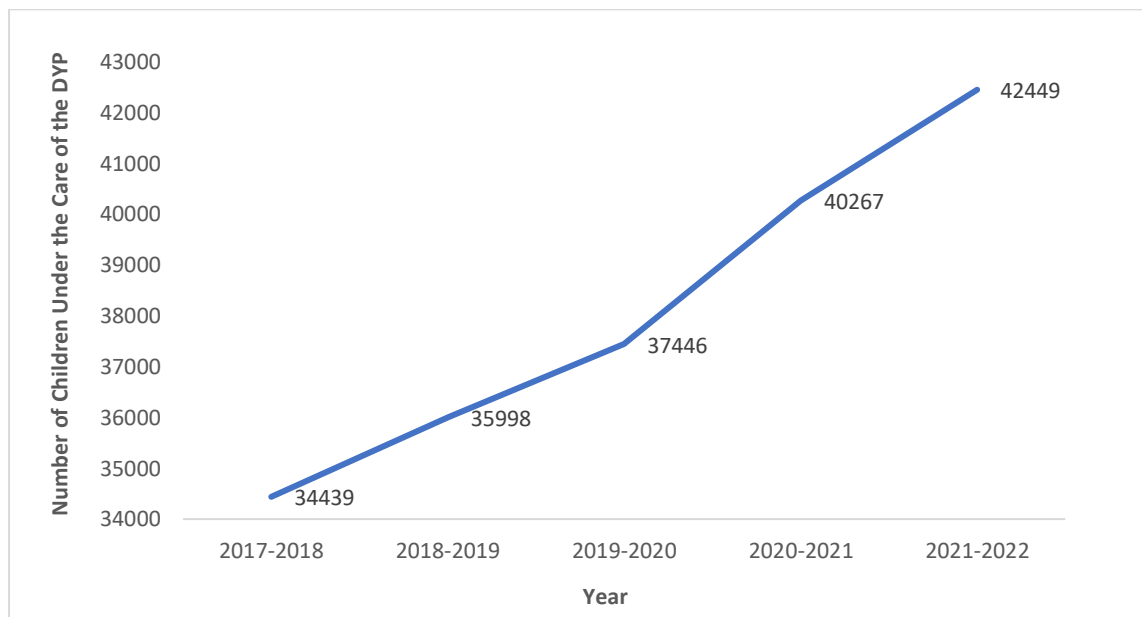
abandonment have seen the steepest increases in report substantiation compared to all other forms of maltreatment. Considering what is known about exposure to interpersonal maltreatment in early life and the adverse impact this can have on a child’s developmental trajectory, the situation in Quebec is alarming. Of particular concern is the fact that the province’s most vulnerable population, children under the age of five, represent a large proportion of cases managed by the DYP.

Figure 1.1 Substantiated Reports of Maltreatment by Year from 2017-2018 to 2021-2022



Note. Data retrieved from the *Bilan des directeurs de la protection de la jeunesse* (2018-2022).

Figure 1.2 Number of Children Under the Care of the DYP from 2017-2018 to 2021-2022



Note. Data retrieved from the *Bilan des directeurs de la protection de la jeunesse* (2018-2022).

1.1.1 The Maltreatment of Children Ages 0-5 years

Since 2017-2018, children aged 0-5 years have consistently accounted for approximately 32% of retained reports of maltreatment and 23% of children under the care of the DYP. In 2021-2022, children under the age of five accounted for nearly half of reports retained for allegations of sexual abuse (i.e., 48.7%) and neglect (i.e., 40.7%). Children under the age of five also accounted for approximately one third of minors under the care of the DYP because of neglect (i.e., 29.2%), and nearly one quarter of children under the care of the DYP because of psychological ill-treatment and physical abuse (i.e., 22.5% and 23.3%, respectively). Table 1.1 below summarizes the statistics recorded by the DYP by form of maltreatment in 2021-2022.

Table 1.1 Number of Retained Reports of Maltreatment and Children under the Care of the DYP by Form of Maltreatment in 2021-2022

	Total Reports Retained	Retained Reports 0-5 years	Total Children Under Care of the DYP	Children Under Care of the DYP 0-5 years
Neglect	14,678	5,971 (40.7%)	21,200	6,192 (29.2%)
Psychological ill-treatment	7,860	2,774 (35.3%)	9,951	2,242 (22.5%)
Physical abuse	12,291	4,064 (33%)	4,919	1,144 (23.3%)
Serious behavioural issues	3,639	5 (0.13%)	3,784	2 (0.05%)
Sexual abuse	5,147	2,509 (48.7%)	2,208	319 (14.4%)
Abandonment	73	18 (24.7%)	387	56 (14.4%)
Total	43,688	13,951 (32%)	42,449	9,955 (23.4%)

Note. Data retrieved from the *Bilan des directeurs de la protection de la jeunesse* (2018-2022).

Among children who are victims of maltreatment, the severity of this maltreatment is well-established as a strong predictive factor of long-term adversity (van der Kolk, 2015). The severity of maltreatment can

be assessed by analysing variables such as exposure to multiple forms of maltreatment, evidence of physical injury, presence of psychological maladjustment, and the chronicity of exposure (Hélie et al., 2019). As the DYP does not report on the severity of maltreatment, the *Étude d'incidence québécoise sur les signalements évalués en protection de la jeunesse* is a study conducted periodically that aims to further quantify and describe situations of maltreatment in children whose reports have been retained for evaluation by the DYP. Table 1.2 below summarizes data on severity indicators among children aged five years and under from 1998, 2008 and 2014. A positive finding from this study is that exposure to more than one form of maltreatment, physical injury, and psychological maladjustment have all decreased from 1998 to 2014. However, following a decrease in chronicity reported between 1998 and 2008 (i.e., 83% to 65%), there was evidence of a resurgence in 2014, with an increase from 65% to 75% in the number of children who experience maltreatment repeatedly.

Table 1.2 Indicators of the Severity of Maltreatment Inflicted Upon Children Ages 0-5 Years in 1998, 2008 and 2014

	1998	2008	2014
More than one form of maltreatment	30%	20%	14%
Physical injury	20%	16%	9%
Psychological maladjustment	42%	14%	15%
Chronicity	83%	65%	72%

Note. Table adapted from the *Analyse scientifique sur la violence et la maltraitance envers les tout-petits (Hélie & Clément, 2016)*.

It is worth noting that the most recent assessment of the severity of maltreatment in children ages 0-5 years was conducted eight years ago whereas the number of substantiated reports of maltreatment documented by the DYP has increased steadily over this period. As such, it is likely that data reported in 2014 underrepresents the proportion of young children who present with symptoms of severe maltreatment in 2021-2022. Moreover, data from a province-wide survey across all age groups that measured the prevalence of child maltreatment suggests that reports made to the DYP may only represent a fraction of the actual incidences of maltreatment involving children in Quebec (Dominic et al., 2018). It

is also worth noting that most reports made to the DYP are not retained for evaluation (i.e., 67% in 2021-2022), meaning that each year, tens of thousands of reports are never investigated by youth protection authorities to determine the validity of the claim (*Directeurs de la protection de la jeunesse, 2022*). Taken together, the marked increase in reports of maltreatment over the last five years combined with indications that statistics from the DYP underrepresent the frequency and severity of maltreatment is concerning for the welfare of children in Quebec.

The next section will review the evolution of trauma conceptualization to include *developmental trauma* as an experience distinct from other forms of trauma as well as describe the typical short- and long-term effects that it has on children.

1.2 Developmental Trauma

The word *trauma* is derived from the Greek word *wound*. In psychology, trauma refers to temporary or permanent physical or psychological damage caused by a situation of extreme stress (Milot et al., 2018). The recognition of a *stress-diathesis* relationship, in which the emergence of psychological disorders results from an interaction between an individual's inherent vulnerability (i.e., diathesis) and the experience of environmental stress (Zuckerman, 1999), has only become clearly established in recent decades. Prior to 1980, psychological and somatic symptoms in response to a traumatic event were commonly thought to be the result of an individual's fragility or temperament (van der Kolk, 1996). This long-held belief was challenged by the fact that 25% of the nearly 700,000 American soldiers who returned from the Vietnam War required some type of formal psychological intervention. Veterans reported debilitating symptoms including flashbacks, nightmares, guilt, loss of concentration, alcoholism, substance use, depression, and suicidality (Koenen et al., 2008). Whereas previous wars had given birth to terms, such as *soldier's heart*, *shell shock*, and *war neurosis*, the unprecedented psychological aftermath of Vietnam led to the introduction of *Post-Traumatic Stress Disorder* (PTSD) in the Diagnostic and Statistical Manual of Mental Disorders III (3rd ed.; DSM III; American Psychiatric Association, 1980). Inclusion in the DSM-III reflected a seminal milestone in the conceptualization of trauma because it officially recognized acute traumatic events as critical causal factors in the mental health difficulties of individuals (van der Kolk, 1996).

The inclusion of PTSD within official psychiatric nomenclature led to extensive research on psychological trauma, allowing clinicians to better understand and treat patients. However, by the mid-1980s, researchers

and clinicians began to express concerns about both the restrictive nature of the DSM's definition of trauma and the adverse effect it was having on the way that victims were evaluated and treated. For example, only events specifically identified by the American Psychiatric Association (APA) as potentially traumatizing qualified for a diagnosis of PTSD (van der Kolk, 2015). This list included situations such as wars, genocides, natural disasters, and rape but not more common experiences like living with chronic health-related illnesses and persistent threats to a person's psychological integrity or well-being (e.g., child or intimate-partner abuse). Over the years, in response to constructive feedback and emerging research, the APA has modified the definition of PTSD to represent the full range of trauma victims and their associated symptomatology (van der Kolk & Pynoos, 2009). However, many clinicians and researchers still contend that it is too narrow in its representation of trauma. More specifically, the DSM-V continues to restrict the formal definition of traumatic experiences to situations that threaten a person's physical integrity (e.g., objective threat of death or serious physical harm, sexual violence) while overlooking a number of other circumstances that can be traumatic and lead to marked negative repercussions, especially those of an interpersonal nature (Anders et al., 2011; Dugal et al., 2016). Rather than rely on the more circumscribed term PTSD, experts in the field tend to refer to Type I and Type II traumas following the pioneering work of Leonore Terr (1991) who was the first to make the distinction between single-event trauma (i.e., PTSD) and repeated-event trauma (Milot et al., 2018). Terr (1991) was also the first to describe the clear differences in children's reactions to these two distinct forms of trauma. According to Terr (2003):

The Type I traumatic conditions of childhood follow from unanticipated single events. (...) These are also the most typical post-traumatic stress disorders that one finds in childhood, usually meeting the criteria of repetition, avoidance, and hyperalertness that represent the major divisions in our diagnostic manual, DSM-III-R. Those children who suffer the results of single blows appear to exhibit certain symptoms and signs that differentiate their conditions from those resulting from the more complicated events. The findings special to single, shocking, intense terrors are 1) full, detailed, etched-in memories, 2) "omens" (retrospective reworkings, cognitive reappraisals, reasons, and turning points), and 3) misperceptions and mistimings. Type I traumas do not appear to breed the massive denials, psychic numbings, self-anesthesias, or personality problems that characterize the Type II disorders of childhood. (p. 327)

While Terr's description of Type I trauma is nearly identical to definition of PTSD in DSM-V, Type II traumas have a different form and are characterized by chronic or repeated exposure to extreme external events such as captivity, physical or sexual abuse, or living in a war-torn country. According to Terr (2003):

Type II disorders follow from long-standing or repeated exposure to extreme external events. The first such event, of course, creates surprise. But the subsequent unfolding of horrors creates a sense of anticipation. Massive attempts to protect the psyche and to preserve the

self are put into gear. The defenses and coping operations used in the Type II disorders of childhood—massive denial, repression, dissociation, self-anesthesia, self-hypnosis, identification with the aggressor, and aggression turned against the self - often lead to profound character changes in the youngster. Even though a repeatedly abused youngster may not settle into a recognizable form of adult character disorder until the late teens or early twenties, extreme personality problems may emerge even before the age of 5.

The emotions stirred up by Type II traumas are 1) an absence of feeling, 2) a sense of rage, or 3) unremitting sadness. These emotions exist side by side with the fear that is ubiquitous to the childhood traumas. Type II disorders, under the scrutiny of able mental health professionals, may come to be diagnosed in childhood as conduct disorders, attention deficit disorders, depression, or dissociative disorders. Recognition of the expanded group of traumas that I am suggesting here may help to define a common etiology and range of findings for many of these childhood conditions. (p. 328-329)

Terr's distinction between Type I and Type II traumas is supported by one of the most powerful and influential studies in trauma research to date, the *Adverse Childhood Experiences (ACE)* study, which linked exposure to abuse or household dysfunction during childhood to multiple physical (e.g., severe obesity, sexually transmitted infections) and mental health difficulties (e.g., addiction, depression, suicidality) (Felitti et al., 1998). More specifically, Felitti and colleagues found a strong graded relationship between the extent of ACE exposure and the degree of long-term adversity (i.e., the more ACEs a child experiences, the more likely they are to develop risk factors for the leading causes of death in adults). One form of Type II trauma that emerged from the ACE's study and that has become an increasing focus of inquiry is *developmental trauma*; a term coined by Bessel van der Kolk (2005). Developmental trauma is the interpersonal trauma resulting from repeated exposure to adverse caregiving experiences during developmentally vulnerable years (e.g., psychological ill-treatment or neglect). The introduction of this term was intended to reflect the reality and clinical presentation of trauma victims who differ qualitatively from those who have experienced PTSD. Although the APA has yet to formally acknowledge developmental trauma as an experience distinct from PTSD, interpersonal early life adversity continues to be the subject of extensive research and clinical utility among leading professionals in the field. It is worth noting that a variety of related terms are also found in the scientific literature to refer to harmful, poor, or absent caregiving, such as poly-victimization, trauma accumulation, attachment trauma, complex PTSD, and more. Despite differences in terminology, there is strong consensus regarding the effects of exposure to repeated or prolonged interpersonal trauma during childhood. Described in greater detail below, developmental trauma most fundamentally affects how victims (a) represent themselves and others, (b) regulate their emotions and impulses, and (c) perceive and interpret themselves, others, and events (i.e., mentalize).

1.2.1 Representations of Self and Relationship Dynamics

A history of poor nurturing experiences or developmental trauma during the early years of life can have lifelong impacts on how a person interacts with others (Collins & Read, 1990; Taylor, 2012). A predominant theory of human development, Attachment Theory, asserts that the quality of a child's relationships with primary caregivers shapes their underlying, initially unconscious template or schema for understanding the world, themselves, and others (Ainsworth, 1989; Bowlby, 1982, 1989). This template or framework is known as the *internal working model* (IWM). Broadly speaking, the quality of parent-child relationships can be described as secure or insecure. Children are more likely to develop a secure relationship when the parent acts as a secure base by offering safety through proximity, providing comfort for distress, encouraging exploration and autonomy, intervening when necessary, and expressing pleasure at reunions (Taylor, 2012). Securely attached children are expected to develop an IWM of others as being trustworthy and of the self as valuable, loveable despite imperfection, and effective when interacting with others (Bowlby, 1982). Conversely, when caregiving is resentful, rejecting, controlling, intrusive, unreliable or when the parent is a source of fear, children are more likely to be insecurely attached and this is associated with the development of a negative internal working model of others (e.g., rejecting, critical, unreliable, frightening) and of the self (e.g., 'I am worthless, unlovable, incapable') (Taylor, 2010). Thus, the attunement and responsiveness of the primary attachment figure to the child's needs and emotions powerfully shapes their social expectations and influences how they manage close relationships for the rest of their lives (Grossmann et al., 2005).

1.2.2 Emotional Regulation

Children who are raised in positive and supportive environments are encouraged to explore their emotional worlds and learn to identify their feelings, and they are also more likely to adopt socially appropriate strategies modeled by primary caregivers for expressing and modulating their emotions (Milot et al., 2018). For maltreated children, the experience of being raised in an unsafe environment can interfere with emotional learning. According to Godbout and Briere (2012), when a child's experiences repeatedly surpass their ability to cope emotionally, this can lead to a feeling of dysphoria (i.e., an overall sense of unease) and the development of lasting mood disturbances such as anxiety and depression. Further, as emotional regulation is not learned in a vacuum, the absence of adults who support emotional skill development limits the child's learning opportunities at key moments throughout their development. As a result, maltreated children are at higher risk of having difficulties identifying, differentiating, and expressing their own emotions and those of others. There is indication that these impairments are

associated with parents who are emotionally negligent or who are abusive and manipulate, invalidate or distort reality in a way that is confusing to a young child and interferes with the developmental of emotional competencies (Messina et al., 2014).

1.2.3 Mentalization

Mentalization is the ability to gauge underlying feelings and intentions about oneself and others, a skill that is largely developed during childhood via interactions with primary attachment figures (Fonagy & Bateman, 2016). As mentalizing abilities are typically underdeveloped in maltreated children, they often rely on pre-mentalizing modes of thinking (Allen et al., 2008). These include: (a) the assumption that one's internal states reflect reality and vice versa (i.e., psychic equivalence), (b) mentalizing attempts that seem appropriate on the surface but do not reflect the reality of one's true thoughts and emotions (i.e., pseudo-mentalization), and (c) coping mechanisms to compensate for impaired mentalization by finding evidence that validates their internal experiences (i.e., theological thinking) (Berthelot et al., 2015). As a result of their inability to read and interpret social situations in a way that reflects reality, maltreated children are more likely to struggle with emotional and behavioural regulation, as well as with the ability to make and maintain social relationships (Allen et al., 2008).

In addition to the repercussions discussed above, developmental trauma also has influences on cognitive development observable as early as pre-school years. Studies have linked childhood maltreatment to executive functioning impairments including attentional control, working memory, disinhibition, cognitive flexibility, planning and problem resolution (Bücker et al., 2012; Cowell et al., 2015; Nadeau & Nolin, 2013; Nolin & Éthier, 2007). By school entry, children who are victims of interpersonal trauma are at greater risk of experiencing learning difficulties, and academic failure (Daignault & Hébert, 2008). Cognitive disadvantages may also play a role in the difficulties maltreated children experience in relationships with peers, notably because they have more difficulty anticipating the consequences of their actions, because they act impulsively or because they are less equipped to find effective and positive solutions when they are in a conflict situation (Milot et al., 2018).

Taken together, it is clear that children with histories of early life maltreatment face a wide array of developmental disadvantages relative to their same-aged peers. Upon school entry, the intensity of symptoms often compromises mainstream classroom inclusion, and without targeted intervention, this subset of students is likely to face school adversity throughout their academic careers (Anthonyamy &

Zimmer-Gembeck, 2007; Carrion & Wong, 2012; Kim & Cicchetti, 2009; Shonk & Cicchetti, 2001). Unfortunately, data from the DYP reveals that childhood maltreatment has been on the rise over the last five years, suggesting that many more students are entering Quebec schools with significant SEMH support needs. In a province with rising rates of childhood maltreatment, the absence of school-based specialized programs is a missed opportunity to support children with a history of poor nurturing experiences and to prevent long-term adversity. The following section describes the classic NG, as conceptualized by educational psychologist Marjorie Boxall, and explores the research base in support of this intervention as an effective approach for reducing SEMH difficulties. This next section will also review an existing adaptation of NGs within the French sector of the province's bilingual education system.

1.3 Nurture Groups: School-Based Intervention for Developmental Trauma

Considering the powerful effects of poor nurturing on a child's development, a number of systematic intervention approaches have been created that have as their focal point, the provision of reparative attachment experiences via the therapeutic actions of secondary attachment figures (e.g., therapists, teachers). NGs are one such approach, aiming to provide school-age children the opportunity to re-experience early nurturing care in a secure environment outside the home (Boxall, 2012).

1.3.1 Description of a NG

Marjorie Boxall developed NGs as an educational, in-school resource for early primary school children who were raised in circumstances of adversity sufficiently severe to limit or disturb healthy psychosocial development (Boxall, 2012). Boxall described the objectives of NGs in the following ways:

They are for children whose emotional, social, behavioural and cognitive learning needs cannot be met in the mainstream class. (...) Their difficulties are markedly varied, often severe, are a cause of underachievement and sometimes lead to exclusion from school. (...) To varying extents, they are without the basic and essential learning that normally from birth is bound into close and trusting relationship with an attentive and responsive parent. The aim of the nurture group is to create the world of the earliest childhood in school, and through this build in the basic and essential learning experiences normally gained in the first three years of life, thus enabling the children to participate fully in the mainstream class, typically within a year. (Boxall, 2012, p. 2-4)

The process in nurture groups, as in families, is based in and through attachment (Bowlby, 1969), and is mediated within and through a secure relationship (Ainsworth et al., 2015). (...) To restore this process in the nurture group, it is crucial that the children become attached.

Their needs then become apparent, the adults respond accordingly, and the learning process follows.” (Boxall, 2012, p. 12)

Operationally, Boxall (2012) describes the class nurture group as:

(...) a class, typically of 10 to 12 children, staffed by a teacher and teaching assistant. It is in the child’s neighbourhood school and is an integral part of the school. The classroom is furnished to be both home and school, is comfortable and welcome, containing and protected. It is big enough for a wide range of domestic and personal activities including ‘breakfast’ early in the day and needed experiences at the 0-3 developmental level, as well as activities that lead into and overlap with [grade-level] curriculum (...). Children will be on register of their mainstream class group and will be included in any class activities that they can manage successfully. From the beginning, they join their class for registration, assembly, break and lunchtimes and spend half a day a week in the classroom. The class teacher remains the responsible teacher for overseeing the child’s learning and progress, with curriculum planning and assessment being a shared, collaborative responsibility. There is a continuous flow of communication between the child’s class teacher and nurture staff. (p. 13)

It is worth noting that there are four main types or variants of NGs. Variant 1 refers to Boxall’s original, classic model described above. Variant 2 adheres to the “important principles of the classic model but differs in structure and/or organisational features” (Cooper et al., 2001, p.88). For instance, the Variant 2 may be a part-time NG or may differ in staffing ratios but adheres to theoretical foundation for NGs by prioritizing engagement in developmentally appropriate activities wherein the NG teacher is intentional about employing strategies rooted in attachment theory (i.e. attunement principles) that foster a secure connection with the child. The Montreal NGs represent Variant 2 NGs. Variant 3 NGs are informed by NG principles but do not follow the same organisational principles. Variant 4 NGs are *aberrant* NGs: They bear the NG name but “contravene, undermine or distort the key defining principles of the classic nurture group” (Cooper et al., 2001, p.162).

1.3.2 NG Research Base

A systematic review of 66 NG outcome studies conducted by Hughes and Schlösser (2014) revealed that NGs were an effective intervention in terms of improving the social, emotional and behavioural functioning of students over the course of one year of placement. Interestingly, there were no significant differences between ‘classic’ vs part-time NGs (i.e., half-day participation) with regard to the impact on children’s school functioning. However, the studies included in Hughes and Schlösser (2014) review lacked

longitudinal measures. As such, the long-term benefits of NGs (i.e., maintenance of skills post-intervention) are not known.

Consistent with the results of Hughes & Schlösser (2014), a systematic review conducted by Bennett (2015) of 62 NG outcome studies found several short-term benefits of NGs on school functioning. The most common benefits to students included reduced “acting out behaviour and improving self-management of anger and calmness” as well as reduced “school exclusion and special placements” (Bennett, 2015, p.4). At a whole school level, Bennett (2015) found that NG presence (a) increased dialogue among staff regarding all students’ SEMH needs, (b) increased curricular and pedagogical adaptations, (c) increased the degree to which classroom teachers reported feeling committed to their work and to their own learning opportunities, (d) improved behaviour management practices, and (e) provided respite to mainstream classroom teachers, students, and the parents of NG students. Importantly, there was also indication that the benefits of NGs extended beyond the school environment. The results of several studies revealed parent-reported behavioural improvements (e.g., less episodes of behavioural dysregulation, oppositionality, impulsivity, property destruction) among NG students in their home context. This suggests that NG involvement has a significant and meaningful influence on children’s development and behaviour even if circumstances remain essentially the same at home. Finally, Bennett (2015) concluded that NGs were the most cost-effective approach relative to a variety of other alternative educational interventions for this subset of children (e.g., a dedicated teaching assistant per student with SEMH needs).

It is worth noting that, in 2005, a Quebec adaptation of NGs, known as Kangaroo Classes (KC), emerged within the French sector of the province’s bilingual education system to meet the needs of students with behavioural or psychopathological disorders (Duguay, 2019). Though not labeled as such, this intervention most closely resembles a Variant 3 NG, informed by principles of the classic model without following the same organizational principles. Similarities include a reference to attachment theory, a clear structure with predictable routines, an emphasis on social skill development, and daily communication between home and school. Areas of divergence include the fact that there are few interventions aimed at encouraging parent involvement in their child’s school life, limited interventions for supporting parenting skills, and variability in the age and academic level of students admitted within the same KC (Duguay, 2019). Another difference is that KCs accept children with severe behavioural and/or mental health issues, for whom there is no appropriate or alternative provision (Couture & Lapalme, 2007). This suggests that KCs are not exclusively intended for students with a history of developmental trauma, unlike their counterpart in the

UK. However, it is important to note that the limited number of investigations into KC and NG implementation makes it difficult to determine the extent to which these interventions are comparable. Consistent with research from the UK, the limited data on KCs suggests that children who attend such classes exhibit at least modest improvements in their functioning. More specifically, Couture and Lapalme (2007) evaluated the efficacy of KCs in 36 children aged 6 to 13 years from five KCs relative to a control group of children with behavioural issues who did not attend KCs and found a greater degree of improvement in KC attendees, as reflected in variables measuring emotional functioning, and teachers' and parents' highly positive perception of the KC's impact. Couture and Bégin (2010) evaluated the efficacy of KCs in 91 students who were 9.3 years on average from 10 KCs and found significant improvements in KC attendees relative to the control group in terms of social, emotional and behavioural functioning, as well as in executive functioning (e.g., attentional control, organization, participation) over the course of one school year. Currently, it is not known how many KCs exist in Quebec as the most recent data available dates back to 2010, when there were 22 groups.

Although NGs have been part of the formal educational provisions in England, Scotland, Wales, and Northern Ireland since the 1970s (nurtureuk, 2019), the research supporting their efficacy is limited by the fact that most studies include “inadequate descriptions of the intervention, a lack of assessment of program implementation, and failure a to report all outcomes” (Mackay, 2015, p. 37). In fact, Cooper (2004) found that the implementation of NGs proposed by Boxall (2012) differs from the implementation observed in the real-world setting, with many NGs being variants of the classic model. As such, prominent researchers in the field recommend that future NG studies focus on the *fidelity of implementation* (Balisteri, 2016; Kearny & Nowek, 2019). In addition to estimating the degree to which NGs adhere to Boxall's core principles, implementation research should seek to link positive outcome data with key nurture practices (Fraser-Smith & Henri, 2016). Although the primary mandate of this program evaluation was to investigate the merits of NG variants for a Montreal school board, the implementation data reported in Chapter II may also begin to address this gap within the NG research base.

1.4 Program Evaluation Framework

Program evaluation is a systematic method for collecting, analyzing and using data to evaluate an intervention (Centers for Disease Control and Prevention, 2022). In the context of this research project, Montreal school board stakeholders sought a collaboration with the authors to determine the degree to which the SEMH difficulties of NG attendees improved by the end of the intervention. Considering the lack

of specialized school-based programs aimed at supporting students with a history of developmental trauma, the results of this investigation may also provide indication of the merits of NGs within the broader context of Quebec's education system. As described in Chen's (2015) manual, *Practical Program Evaluation*, the following section outlines the five main steps to determining an appropriate evaluation plan.

1.4.1 Step 1: Purposes of and Background Information about the Intervention Program

Evaluators need to gain a solid understanding of the background of the program. This includes the program's purposes, target population, key stakeholders, implementation procedures, reasons for conducting the evaluation, the resources that will be used and how results will be utilized. Preliminary information is typically obtained via interviews with stakeholders and a review of the program's existing documentation. This step was conducted prior to the evaluation of implementation practices (i.e., Chapter II).

1.4.2 Step 2: Logic Model or Program Theory for Describing the Program

A systematic program description serves as the basis for a sound evaluation design. When a coherent program description is not readily available, as is often the case, Chen (2015) recommends the use of a Logic Model. A Logic Model is a graphical representation of the relationship between a program's day-to-day activities and its intended effects (Wyatt, Knowlton & Phillips, 2013). In its simplest form, the Logic Model examines inputs, outputs and outcomes. Inputs are defined as resources dedicated to or consumed by the program, outcomes are direct products of program inputs (i.e., activities provided, people reached) and outcomes are the benefits resulting from the program. Although the Montreal NGs provided the evaluators with a coherent description of the program during initial interviews, a Logic Model was developed to formalize and document the intervention (Figure 2.1).

1.4.3 Step 3: Assertion of a Program's Stage of Development

Once a mutual agreement has been reached among stakeholders regarding the program's description, evaluators can determine the program's maturity. Evaluation typology is based on a program's life cycle, which can be classified into one of four phases: planning, initial implementation, mature implementation and outcome. During the planning phase, evaluators work with partners to identify or develop an intervention and organize the necessary resources and activities. Once the program has reached the initial implementation phase, the primary tasks are training implementers, obtaining client consent and ensuring appropriate implementation. In the mature implementation phase, evaluators assess the maintenance of

quality implementation. Finally, in the outcome phase, the goal is to determine whether participants are achieving the program's intended effects. Different phases of the program's life cycle require different evaluation approaches. The Montreal NG variants qualify for the outcome phase as they had been in continuous operation for 12 years at the time of evaluation.

1.4.4 Step 4: Identification of Evaluation Type and Methodology

The *Holistic Effectuality Evaluation Approach* is a type of outcome evaluation that "integrates the dynamic nature of an intervention program in a community and stakeholders' views and practices with existing scientific methods to develop indigenous concepts, theories, and methodologies for program evaluation" (Chen, 2015, p. 266). To ensure stakeholder buy-in and results that are relevant and useful, the Holistic Effectuality Evaluation is participatory in nature, meaning that evaluators collaborate with program stakeholders and staff to select the evaluation design and methodology. This approach is commonly employed to evaluate community intervention programs (e.g., Montreal NGs) because randomized control trials of real-world programs can be very difficult to conduct for ethical reasons and/or due to administrative or resource constraints (Chen, 2015).

The Holistic Effectuality Evaluation is a hybrid evaluation, containing both *constructive* and *conclusive outcome evaluation* elements. The constructive outcome evaluation component identifies relative strengths and/or weaknesses of program elements in terms of how they may affect program outcome but does not provide judgement of program effectiveness. This includes an evaluation of the degree to which the reported Logic Model reflects a program's day-to-day reality (i.e., implementation fidelity to the Logic Model), achieved by examining past and present documentation (e.g., reports, evaluations, services rendered, etc.) and by conducting site visits to collect observational data. A program is regarded as having low evaluability when fidelity to the Logic Model is poor (i.e., the program is not doing what they think they are doing). When this is the case, evaluators must first work with stakeholders to foster program evaluability by identifying factors inhibiting program performance. If the Logic Model is found to be an accurate representation of the program's actual implementation, a conclusive outcome evaluation can be conducted. Chapter 2 describes the constructive outcome evaluation process (i.e., implementation fidelity assessment) and results for the Montreal NGs.

In the Holistic Effectuality Evaluation, the conclusive outcome evaluation component investigates the degree to which intended effects are achieved (e.g., reduced SEMH difficulties for NG attendees). To

reduce potential biases, an unobtrusive quantitative design should be prioritized (i.e., data collection that does not interfere with the subjects under study). The evaluation design should also be relatively inexpensive and feasible for community-based organizations to administer. The one-group pretest-posttest design is regarded as meeting these criteria. To strengthen evidence of findings, data collection methods should allow for the triangulation of evidence (e.g., NG teacher response to questionnaires, direct observation by research team, NG student input) and the intervention should be replicated at another site, if possible (e.g., two NG classrooms). Replication of the intervention strengthens external validity and provides a measure of internal validity that is typically difficult to obtain in real-world settings. If the intervention is found to be effective at more than one site, this strengthens evidence in support of the program's effectiveness. Chapter 3 describes the methods and results of the Montreal NG's conclusive outcome evaluation, which included a one-group pretest-posttest design, data triangulation and intervention replication.

1.4.5 Step 5: Timeline and Budget

The research method used in any evaluation is influenced by available resources. Given that the Holistic Effectuality Evaluation is participatory in nature, it was decided jointly between the authors and Montreal NG stakeholders that the program evaluation would take place over the course of the 2020-2021 academic year, a comparable timeline to NG studies carried out in the UK. Costs were incurred by evaluators (e.g., fees for evaluation instruments) and the feasibility of data collection was ensured by the collaboration of NG staff (e.g., stakeholders, teachers, support staff).

CHAPTER 2
CLASSROOM AS A SECURE BASE AND SAFE HAVEN:
NURTURE GROUP IMPLEMENTATION IN TWO MONTREAL SCHOOLS

Article published in the *International Journal of Nurture in Education*

Cloran, P., Rivard, M., & Bennett, A. (2022). Classroom as a Secure Base and Safe Haven: Nurture Group Implementation in Two Montreal Schools. *The International Journal of Nurture in Education*, 8(1), 7–22.

Note: The linguistic style of this article respects the norms of the *International Journal of Nurture in Education*.

Data availability statement: The data that support the findings of this study are available on reasonable request from the corresponding author.

2.1 Abstract

Nurture Groups (NGs) are a school-based intervention for children who missed out on healthy early attachment experiences and who, as a result, present with marked impairments in social, emotional and behavioural functioning upon school entry. Researchers have consistently found that students are significantly more likely to exhibit improvements in school functioning by attending a NG. However, broad theoretical guidelines and a paucity of research on fidelity of implementation to the classic NG model make it difficult to know which elements of NGs are most responsible for its positive outcomes. To begin to address gaps in the research, the overarching objective of the present study was to produce a systematic and concrete description of NG implementation in two Montreal, Quebec-based schools. Overall, results revealed only modest departures from the classic model in organisation, resources and teaching practices within this NG variant. A subsequent companion study will evaluate student outcomes in response to this variant model.

Keywords: nurture groups, implementation, attunement, attachment

2.2 Introduction

In the 1960s, educational psychologist Marjorie Boxall introduced the idea of NGs in response to the growing number of children who were struggling to meet basic grade-level behavioural and academic expectations in the inner-city elementary schools of London (Cooper & Tiknaz, 2007; Lucas, 2019). The rationale for these groups was based primarily on the belief that children who miss out on healthy early attachment experiences develop negative internal working models of the self (eg, as unworthy, unwanted, defective) and of others (eg, as unavailable, unresponsive, rejecting) and, consequently, are less prepared to cope with the emotional and practical demands of school life (Boxall & Lucas, 2010; Geddes, 2017). Given this emphasis on the compromising effects of a negative working model of attachment, NGs were designed to offer reparative attachment experiences within the school setting (Bennathan, 2012). More specifically, Boxall sought to provide children with the opportunity to re-experience early nurturing care in a safe, predictable environment wherein the development of a secure and trusting relationship with a secondary attachment figure (ie, the teacher) would act as a vehicle for improved self-regulation, self-worth and overall school functioning.

Boxall's conceptualisation of NGs came to life in the 1970s, with Sylvia Lucas becoming the first nurture teacher. Through interactions between Boxall, Lucas and other early collaborators, NGs were formalised into the *classic* model known today (Lucas, 2019). Operationally, the classic NG is described as a short-term intervention provided by a teacher and a teaching assistant to four to eight-year-olds in class groups of 10 to 12 students (Bennathan, 2012; Boxall & Lucas, 2010). The intervention runs for four-and-a-half days per week in the children's community schools and provides a structured intervention involving academic, social-emotional learning activities and opportunities for play (Colley, 2017; Cooper & Tiknaz, 2007). Importantly, children are not held to grade-level standards and staff are non-judgmental in their responses to students' learning limitations. NGs offer a balance of educational, domestic and play experiences aimed at supporting the development of the children's relationships with the staff and with each other (Colley, 2017). There is an emphasis on the adults engaging with the children in reciprocal, shared activities (eg, meals/reading/talking about events and feelings) that staff use as opportunities to show interest in the children's external and internal worlds (Doyle, 2003). The classic NG combines standard classroom features with homey décor and furnishings (eg, couch, dining table, play area). In order to maintain a sense of belonging to their homeroom, students remain on their mainstream class list and present themselves each morning for attendance. Additionally, students participate in lessons in their mainstream class for one afternoon per week. Typically, children attend the NG for three to four school

terms before returning to their mainstream class on a full-time basis. A return to their mainstream class is treated as a gradual transition process to facilitate student adjustment and begin to transfer attachments from NG staff to the mainstream class teacher (Bennathan, 2012).

Today, nearly five decades after the establishment of the first NG, more than 2,000 schools across the United Kingdom have adopted NGs as part of their response continuum for vulnerable and mistreated children (nurtureuk, 2019). Moreover, researchers focusing on the intervention's efficacy have consistently found that students who participate in a NG programme for at least two terms are significantly more likely to demonstrate improvements in school functioning than students who remain in their mainstream classrooms (Cooper & Whitebread, 2007; Hughes & Schlösser, 2014; Seth-Smith et al, 2010; Shaver & McClatchey, 2013). Unfortunately, the increasing popularity and institutional support for NGs has not yet inspired investigators to systematically address the question of implementation fidelity (ie, the degree to which a NG reflects the theoretical origins and organisational features of Boxall's classic model) despite this issue having been identified as a key research need (Balisteri, 2016; Fraser-Smith & Henry, 2016). There is also a paucity of research explicitly linking positive student outcomes to specific, measurable practices within NGs (Bennett, 2015; Kearny & Nowek, 2019). This gap in the literature likely reflects a lack of clearly defined expectations for NG personnel.

The limited specificity of NG pedagogical guidelines is readily illustrated by consideration of the *Six Nurture Principles for Learning*, intended to inform daily classroom practices: (1) learning and achievement is enhanced through meeting social, emotional and cognitive needs, (2) how we communicate impacts on mental health, learning and achievement, (3) nurture cultures promote reflective practices, (4) self-esteem and a sense of identity are key to positive mental health and wellbeing, (5) feeling emotionally safe is essential for mental health, learning and achievement, and (6) celebration of diversity enriches the community and enhances learning (Nurture International, 2021). Although these principles readily evoke associations to foundational concepts in child development, they do not lend themselves to easy or uniform operationalisation. Similarly, NG curricula is of necessity linked to the national or regional educational guidelines for the countries in which the NG is located (eg, England, Scotland, Wales, Northern Ireland, Canada, New Zealand) and, as such, varies from jurisdiction to jurisdiction (Cooper & Tiknaz, 2007).

As a result, school boards in different countries have implemented versions of NGs and adjusted some of their organisational elements to meet the needs of the communities they represent (Bégin et al, 2020;

Bishop, 2008; Cooper, 2004). This way of responding to the lack of specificity in NG operationalisation has led to the emergence of several 'local variants' over the years that depart from the classic NG model (Cooper & Whitebread, 2007; Middleton, 2021). Without greater clarity around the explicit practices that comprise an effective NG, it is difficult for school board stakeholders to reliably replicate its most essential ingredients (Breitenstein et al, 2010). Thus, the goal of the present study was to provide a detailed account of NG implementation in two Montreal-based schools in order to describe how NGs outside the UK are being operationalised, as well as to begin to connect specific practices within NGs to the meaningful improvements in school functioning demonstrated by students who have graduated from an NG.

2.3 Research to date: NG implementation and fidelity

To date, there are no published studies that have investigated fidelity to both the organisational and interventional features of classic NGs. However, one study indirectly measured organisational fidelity to the *Procedures for the Operation of Secondary Nurture Bases* established by the Glasgow City Council Education Services (2017). Grantham and Primsore (2017) interviewed personnel from seven secondary-level NGs to evaluate the following: (a) adherence to intake and discharge procedures, (b) staff training, (c) referral protocols, (d) student ages, (e) pre- and post-intervention measures, (f) number of terms a student remained in the programme, (g) frequency of meetings between leadership team and classroom personnel, and (h) parental involvement. Overall, considerable variability in organisational fidelity emerged across NGs. These results are not surprising given recent evidence that contained class groups bearing the name 'NG' often differ in the extent to which they adhere to the theoretical and practical underpinnings of Boxall's classic NG (Bennett, 2015; Cooper & Whitebread, 2007; Middleton, 2021).

Also not surprising, given the absence of concrete, uniform expectations for NG personnel, is that only a few studies have specifically examined teacher behaviour within the NG classroom. One example is the research of Colwell and O'Connor (2003) which found that, relative to their mainstream counterparts, NG teachers demonstrated significantly more positive verbal and non-verbal communication in response to student behaviour (eg, showing interest, nurturing students' ideas, providing attuned, informative and spontaneous praise, etc.) and significantly less negative verbal and non-verbal communication (eg, fewer controlling lessons, less bland praise and fewer demeaning behaviour management practices). In addition, the style of communication used in NGs was more 'relational' (Hibbin, 2019), conveying feelings of warmth and acceptance and facilitating a classroom climate in which the students felt safe, valued and supported (Colwell & O'Connor, 2003). In a related study, Bani (2011) found that specific verbal praise was used twice

as often relative to non-verbal praise by NG teachers. The authors hypothesised that the use of verbal praise was effective because it was 'personal, genuine, contingent and descriptive (mentioning desired behaviour) and provided specific information, where the pupil understood why they are being praised' (Bani, 2011, p. 62). In response, children were more likely to maintain positive behaviour.

Another study related to NG classroom practices (Cubeddu & MacKay, 2017) evaluated the implementation of a key component of nurturance and secure attachment relationships known as 'attunement' (Schoore, 2001). Attunement strategies examined in this study included being attentive, encouraging initiatives, receiving initiatives, developing attuned interactions, guiding and deepening discussion (Cubeddu & MacKay, 2017; Kennedy, Landor & Todd, 2011). Results revealed a significantly higher frequency of attunement strategy implementation in NGs relative to mainstream classes, suggesting that NG staff are more responsive to the social, emotional, behavioural and academic needs of their students.

2.4 Context of the study

In Quebec, a bilingual province in Canada, there is clear indication that a growing number of children would benefit from a secure attachment base outside the home (Hélie & Clément, 2016). However, despite rising rates of verified cases of abuse and a public education system that is well positioned to support the development of children, there are no ministry-endorsed specialised programmes aimed at supporting students who are at risk because of social, emotional and mental health (SEMH) difficulties. Inspired by the widespread adoption of NGs in the UK, one Montreal-based school board independently set up two full-time NGs that have been in continuous operation for the last 12 years.

These classes were developed based on the founding principles of classic NGs and adapted to the context of the province's education system and resources. As such they identify as a NG variant; more specifically a NG-Variant 2 which adheres to the 'important principles of the classic model but differs in structure and/or organisational features' (Cooper et al, 2001, p. 88). The Montreal NG classes target students in Grades 1-3 (ie, six to nine years) with very significant SEMH difficulties, for whom school personnel strongly suspect an insecure or disorganised attachment style and/or who have a documented history with child protection services. As the school board covers a large geographical area, students are assigned to the NG that is closest to the neighbourhood in which they reside (ie, a point-of-service model). A formal research partnership was established with the Montreal NG teams to document NG implementation outside the UK. A companion study will investigate student outcomes in response to this NG variant model.

2.5 Research Objectives

A mixed-method study design with four main objectives was employed to document intervention implementation. The first objective was to develop a systematic programme description reflecting the operationalisation of these Montreal NG variants. Next, to determine whether the reported description was consistent with day-to-day implementation, the second and third objectives were to evaluate organisational and personnel fidelity to the variant model. In the context of this study, 'organisational fidelity' refers to the implementation of intervention supports (eg, provision of resources, staff training, etc.) whereas 'personnel fidelity' refers to the implementation of the intervention itself (ie, teacher behaviour). Specifying the degree to which intervention implementation matches an intervention's conceptualisation enhances the validity of an outcome study, and the strength of this relationship is the best estimate of implementation quality (Breitenstein et al, 2010). The final objective was to investigate perceived facilitators and barriers to NG implementation.

2.6 Ethics

The present study was carried out in accordance with the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans of the Canadian Panel on Research Ethics*, whose research ethics committee approved this study. Ethical approval was also granted by the Research Ethics Committee for Student Projects at the University of Quebec in Montreal, as well as by the Montreal school board's own internal ethics committee. NG teachers, teaching assistants and special education technicians, as well as the NG clinical director and the assistant director of student services, were made aware of this study by means of an informational flyer shared with the school board's director of student services. Interested candidates were invited to contact the lead author. Informed consent was obtained from all NG team members prior to the commencement of the observations. Consent forms outlined (a) the general objectives of the study, (b) experimentation procedures, (c) advantages and risks, (d) data confidentiality, and (e) the right to withdraw consent at any time without any prejudice. Additionally, the contact information of each author and of the ethics committee was made available in case of comments, questions, or complaints. The participants were also informed of the authors' aim to publish the study in a peer-reviewed journal once completed. At the end of the study, all participants were debriefed on the results.

2.7 Methodology

When a comprehensive programme description is not readily available, the use of a Logic Model is recommended (Chen, 2015). A Logic Model can be understood as a graphical representation of the relationship between a programme's inputs, outputs and intended outcomes (Knowlton & Phillips, 2013). Inputs are defined as resources dedicated to, or consumed by the programme, outputs are direct products of programme inputs (eg, activities provided, people reached) and outcomes are the benefits resulting from the programme (eg, improved school functioning). As the NGs in this study are NG-variants (ie, adhering to the principles of the classic model but differing in some organisational features linked to the particular needs and resources of a Montreal school board), a Logic Model offers a comprehensive means of describing the ways in which these groups depart from Boxall's classic NG. Other benefits of a Logic Model include (a) helping staff gain a common understanding of how an intervention works, (b) helping staff to understand their individual responsibilities, and (c) identifying indicators of success, or specific practices that can be linked to improvements in student school functioning (Chen, 2015).

To develop the programme description (ie, objective 1), the Montreal NG team was engaged in a participative four-step process. In Step 1, the NG clinical director and the classroom teams from both NGs completed a Logic Model template based on their experiential history in the program. The result of this activity was three independent Logic Model drafts. In Step 2, the models were compared via a collaborative discussion process among NG personnel that was facilitated by the lead researcher. In Step 3, the lead researcher presented a single, common version of the Logic Model that integrated the elements that were found to be consistent across drafts and that reflected the team's discussion to reconcile areas of divergence. The NG personnel had the opportunity to review, discuss and request additional edits. In the last step, a final version of the Logic Model was presented, and a consensus was reached among team members.

To evaluate the degree to which intervention supports and resources outlined in the Logic Model were made available to the NGs and/or implemented by the NGs (ie, organisational fidelity; objective 2), record reviews of one full school year, as well as ten monthly site visits in each NG were conducted. For the evaluation of personnel fidelity (ie, objective 3), the Montreal team identified the following pedagogical practices in their Logic Model as being key differentiators between NG teacher and mainstream teacher behaviour: being attentive, encouraging initiatives, receiving initiatives, developing attuned interactions, guiding discussion, deepening discussions and constructive behaviour support (Table 2.1). Apart from constructive behaviour support, the other six strategies, based on the work of Kennedy, Landor and Todd (2011), are commonly

referred to as ‘attunement strategies’ and have been a focus of Montreal NG staff training since the inception of the program. These strategies are rooted in attachment theory and considered ways by which adults create a secure base and safe haven for children (Ainsworth et al, 2015; Whelan & Stewart, 2015). Not surprisingly, they have been found to promote attuned interactions between caregivers and children in two meta-analyses (Bakermans-Kranenburg, Van Ijzendoorn, & Juffer, 2003; Fukkink, 2008).

As the implementation of attunement strategies by NG and mainstream teachers in the UK has been previously investigated by Cubeddu & MacKay (2017), the same methodology was employed in the present study to allow for comparison. Two 60-minute observations in each NG class and in six different mainstream classes of corresponding grade levels (ie, grade 1 to grade 3) across a one-month period were conducted by two trained research assistants. Inter-rater reliability (IRR) was conducted for 7 of the 16 hours of total observation time. The mean IRR across seven hours of reliability verification was 87% with no single category falling below 80%. A structured observation form provided by the authors was used for data collection. No single strategy was recorded more than once in any 60-second period to ensure the recording of distinct episodes of strategy implementation. As NGs are characterised by favourable staff-to-student ratios, observations focused solely on teacher behaviour rather than classroom support staff behaviour to avoid unfairly biasing results toward NGs (ie, more staff and fewer students should yield more opportunities for strategy implementation). It is worth noting that each NG had eight students compared to, on average, 12 students per mainstream class. Under normal circumstances, approximately 20-25 students would attend a mainstream class in Quebec schools. However, given that this study took place at the height of the Covid-19 pandemic, many families favoured remote schooling options over in-class learning.

The data collected across observations was used to answer the following questions about NG and mainstream teaching practices:

- a) Did the total occurrence of strategy implementation differ significantly between the NG and the mainstream teachers?
- b) Did the occurrence of each individual strategy differ significantly between the NG and mainstream teachers?
- c) Did the total occurrence of strategy implementation differ significantly between the two NG teachers?
- d) Did the occurrence of each individual strategy differ significantly between the two NG teachers?
- e) Did the total occurrence strategy implementation differ significantly between the six mainstream teachers?

Lastly, a questionnaire was completed by each NG teacher, special education technician and teaching assistant to better understand the factors that were perceived to facilitate and limit personnel fidelity, whereas the NG clinical director and the school board's assistant director of student services reported primarily on variables related to organisational fidelity.

Table 2.1 Description of Constructive Behaviour Support and Attunement Strategies, Adapted from Cubeddu & MacKay (2017)

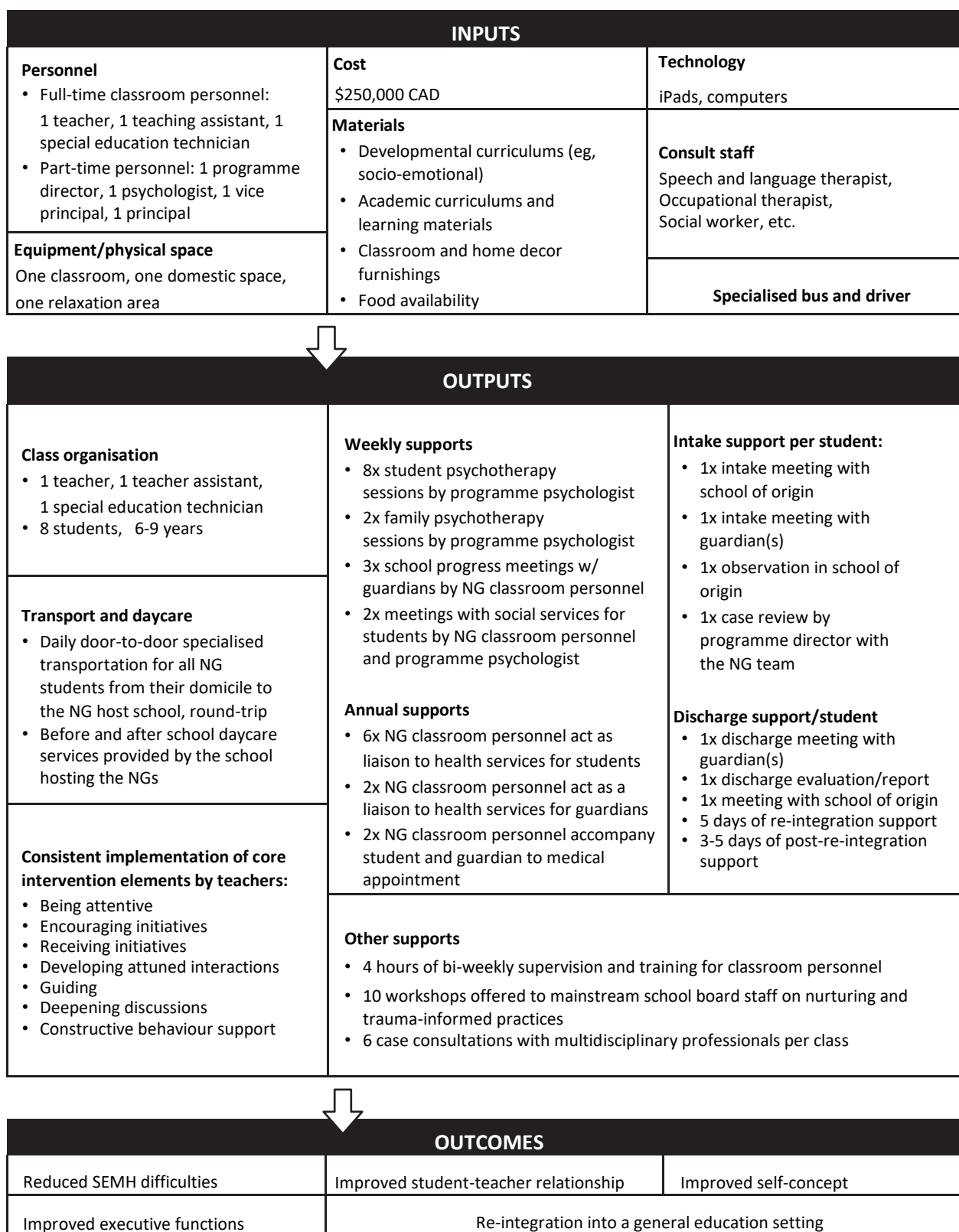
Being attentive	Looking interested with friendly posture; giving time and space for the child and each other; wondering about what the child is doing, thinking or feeling; enjoying watching them.
Encouraging initiatives	Waiting; listening actively; showing emotional warmth through intonation; naming positively what you see, think or feel in regard to the child or to the child's actions; using friendly and/or playful intonation as appropriate; saying what you are doing; looking for initiatives.
Receiving initiatives	Showing you have heard and noticed the child's initiative; receiving the child's overture/approach/initiative with receptive body language; being friendly and/or playful as appropriate; returning eye contact, smiling, nodding in response; receiving what the child is saying or doing with words; repeating/using the child's words and phrases.
Developing attuned interactions	Receiving and then responding to the child's overtures or initiatives; checking to see if the child is understanding you; waiting attentively for your turn; having fun; giving a second (and further) turn on the same topic; giving and taking short turns; contributing to interaction/activity equally; cooperating – helping each other.
Guiding	Extending, building on their response; judging the amount of support required and adjusting; giving information when needed; providing help when needed; offering choices that they can understand; making suggestions that they can follow.
Deepening discussion	Supporting goal setting; sharing viewpoints; collaborative discussion and problem-solving; naming difference of opinion; investigating the intentions behind words; naming contradictions/conflicts (real or potential); reaching new shared understandings; managing conflict.
Constructive behaviour support	Feedback to students that clearly delineates/describes the rules, routines and rituals of the classroom; feedback to the child that offers a simple explanation for the rules/routines/rituals; concrete and discrete behavioural feedback; feedback that provides children with clear direction about what they are expected to do rather than just labelling the inappropriate behaviour they are currently demonstrating (eg, I need you to stop talking to Timmy and start your worksheet); use of a holding environment (ie, the physical and interpersonal classroom environment that promotes the child's maturation and development) and restorative language management.

2.8 Results

2.8.1 Objectives 1 & 2: Programme description and organisational fidelity

The result of a stepwise collaboration between NG team members was a comprehensive programme description in the form of a Logic Model (Figure 2.1, objective 1). The availability and frequency of resources reportedly provided by the school board as organisational supports to the nurture classes was found to be consistent with actual implementation. Specifically, this included the cost of the programme, the availability of materials, technology, physical space, classroom staff to student ratios, specialised door-to-door transportation as well as before and after school daycare services. This also included the frequency of psychotherapy offered to students and families by the NG psychologist, parent meetings, communications with health and social services, case consultations provided by specialists (eg, speech and language pathologist, occupational therapists), intake and discharge support, staff supervision and training by the NG clinical director and whole-school workshops delivered to mainstream teachers about nurturing practices.

Figure 2.1 Quebec-based Nurture Group Logic Model for a Single Classroom



2.8.2 Objective 3: Evaluation of personnel fidelity

The Chi-square goodness of fit test was employed to compare observed frequencies with expected probabilities. All analyses were conducted using the χ^2 test function on GraphPad Prism Version 9.1.2 for Mac (San Diego, CA: GraphPad Software).

2.8.2.1 Analysis 1: Did the overall frequency of strategy implementation differ significantly between NG and mainstream teachers?

A total of 417 strategy implementations were observed for the two NG teachers across four hours of observation. In comparison, 326 strategy implementations were recorded for the six mainstream teachers across 12 hours of observations. When expected frequencies were adjusted to account for the fact that there were more mainstream teachers than NG teachers (ie, six and two, respectively), results revealed a significantly higher frequency of constructive behaviour support and attunement strategy implementation by the NG teachers ($\chi^2=383.90$, $df=1$, $p<0.0001$).

Table 2.2 Observed and Expected Frequencies of Overall Strategy Implementation by NG vs. Mainstream Teachers

	NG Teachers (two teachers)	Mainstream Teachers (six teachers)	Significance
Observed frequencies	417	326	$\chi^2=383.90$, $df=1$, $p<0.0001$
Expected frequencies	185.8 (25%)	557.30 (75%)	

2.8.2.2 Analysis 2: Did the frequency of each individual strategy differ significantly between the NG and mainstream teachers?

The χ^2 goodness of fit test was performed separately for each of the seven strategies. The observed frequencies represent the sum of both observations for each category. When expected frequencies were adjusted to account for the fact that there were more mainstream teachers than NG teachers (ie, six and two, respectively), results revealed a significantly higher implementation frequency of each individual strategy by NG teachers. The most striking differences were observed for 'deepening discussions' ($\chi^2=70.21$, $df=1$, $p < 0.0001$) and 'constructive behaviour support' ($\chi^2=123.6$, $df=1$, $p < 0.0001$).

Table 2.3 Observed and Expected Frequencies for Each Individual Strategy by NG vs. Mainstream Teachers

	NG Teachers (two teachers)		Mainstream Teachers (six teachers)		Significance
	F _o	F _e (25%)	F _o	F _e (75%)	
Being attentive	52	25	48	75	$\chi^2=38.8$, df=1, p < 0.0001
Encouraging initiatives	56	24.75	43	74.25	$\chi^2=52.61$, df=1, p < 0.0001
Receiving initiatives	57	29.75	62	89.25	$\chi^2=33.28$, df=1, p < 0.0001
Developing attuned interactions	35	13	17	39	$\chi^2=49.64$, df=1, p < 0.0001
Guiding	92	47.25	97	141.75	$\chi^2=56.51$, df=1, p < 0.0001
Deepening discussion	25	6.5	1	19.5	$\chi^2=70.21$, df=1, p < 0.0001
Constructive behaviour support	100	39.50	58	118.5	$\chi^2=123.6$, df=1, p < 0.0001

2.8.2.3 Analysis 3: Did the overall frequency of strategy implementation differ significantly between the two NG teachers?

The total frequencies recorded during observations were 104 and 106 for NG 1 and 112 and 95 for NG 2. When the sum of observed frequencies in each NG were tested against expected probabilities (ie, equal frequencies of implementation), the difference was insignificant ($\chi^2=0.02158$, df=1, p = 0.8832). In other words, the total occurrence of constructive behaviour support and attunement strategy implementation was similar across NGs.

Table 2.4 Observed and Expected Frequencies of Overall Strategy Implementation by each NG Teacher

	NG 1	NG 2	Significance
F _o	210	207	$\chi^2=0.02158$, df=1, p = 0.8832
F _e (50%)	208.5	208.5	

2.8.2.4 Analysis 4: Did the frequency of each individual strategy differ significantly between the two NG teachers?

The χ^2 goodness of fit test was performed separately for each of the seven strategies. The observed frequencies represent the sum of both observations for each category. The expected probability represents the assumption that strategies are implemented equally by NG teachers. Results revealed insignificant differences between NG teachers. In other words, the occurrence of each individual strategy was comparable across NGs.

Table 2.5 Observed and Expected Frequencies of Individual Strategy Implementation by NG teacher

	NG 1		NG 2		Significance
	F _o	F _e	F _o	F _e	
Being attentive	25	26	27	26	$\chi^2=0.07292$, df=1, p = 0.7815
Encouraging initiatives	30	28	26	28	$\chi^2=0.2857$, df=1, p = 5930
Receiving initiatives	27	28.5	30	28.5	$\chi^2=0.1579$, df=1, p = 6911
Developing attuned interactions	17	17.5	18	17.5	$\chi^2=0.02857$, df=1, p = 0.8658
Guiding	48	46	44	46	$\chi^2=0.1739$, df=1, p = 0.6767
Deepening discussion	12	12.5	13	12.5	$\chi^2=0.04$, df=1, p = 0.8415
Constructive behaviour support	49	50	51	50	$\chi^2=0.04$ df=1, p = 0.8415

2.8.2.5 Analysis 5: Did the total frequency of strategy implementation differ significantly between the six mainstream teachers?

When the sum of observed frequencies in each mainstream class were tested against expected probabilities (ie, equal implementation), the χ^2 goodness of fit test revealed a significant difference ($\chi^2=29.11$, $df=5$, $p < 0.0001$). This implies that the total occurrence of constructive behaviour support and attunement strategy implementation varied significantly across mainstream teachers.

Table 2.6 Observed and Expected Frequencies of Overall Strategy Implementation by Mainstream Teacher

	Mainstream 1	Mainstream 2	Mainstream 3	Mainstream 4	Mainstream 5	Mainstream 6	Significance
F _o	46	80	73	48	36	43	$\chi^2=29.11$, $df=5$, $p < 0.0001$
F _e (16.67%)	54.33	54.33	54.33	54.33	54.33	54.33	

2.8.3 Objective 4: Facilitators and barriers of NG intervention fidelity

Classroom personnel, the NG clinical director and the assistant director of the school board’s department of student services each felt strongly that a solid theoretical understanding of NGs (ie, ‘why we do the things we do’) facilitates implementation fidelity (8/8). Other facilitating factors included effective communication between team members (5/6), supervision (6/6), training (6/6) and a skilled and dedicated NG clinical director (6/6). Importantly, classroom personnel reported being extremely satisfied with the quality and consistency of supervisory support from the clinical director (6/6). Respondents also reported that supervisory support allows for continuous skill development (5/6) and emotional support to staff (6/6), and helps them better understand the reasons underlying each child’s SEMH difficulties (6/6). One staff member remarked that the supervisor ‘allowed us to work at our best as we always felt prepared for the challenges faced and we know someone is there for us if we need it.’

Barriers to NG implementation were identified as student absenteeism (5/6) and inconsistent parental availability/engagement (6/6). Perhaps unique to this study, the Covid-19 pandemic was reported as an additional barrier to NG implementation fidelity (6/6). Three main difficulties emerged from the pandemic: (1) social distancing requirements limited the teams’ ability to meet students’ proximity-seeking needs (6/6), (2) facial masks made it difficult to quickly identify and meet students’ emotional needs (eg, reading

or exchanging facial expressions) (5/6), and (3) facial masks muffled voices and made it hard to understand and be understood by students (eg, degree of distress, empathic tone) (5/6).

The assistant director of student services and the NG clinical director identified several ways organisational fidelity can be compromised. First, the ideal NG classroom size required to meet students' unique needs (ie, space for domestic activities, space to contain behavioural dysregulation, space for traditional teaching activities) may be limited by a host school's space availabilities. Secondly, the ability to provide round-trip door-to-door specialised transportation for NG students is dependent on the transportation company's resources. Moreover, the coordination of transportation routes can be complex given that students are coming from different municipalities across a wide geographical area (ie, point-of-service model). Lastly, it was reported that considerable discussion time is required to obtain special permission from the relevant unions within the school board to be able to give priority to qualified candidates over candidates who have accumulated greater seniority but who do not necessarily have the specialised training/orientation necessary to work within NGs (2/2).

2.9 Discussion

To date, the research base addressing implementation in NGs is limited and it remains difficult to determine whether the various NGs that have been shown to improve student social-emotional-behavioural functioning used a set of interventions of comparable form and fidelity. The present study sought to bridge this research gap by comprehensively evaluating the implementation of two Montreal-based NGs. The Logic Model (Figure 2.1) developed by NG personnel revealed a measurable programme description that was found to be quantitatively representative of the NGs' practical realities. At an organisational level, the resource-intensive nature of NGs in this study resembled a hospital-based child psychiatry day programme to a greater degree than it did a mainstream classroom. In terms of classroom practices, constructive behaviour support and attunement strategy implementation were reported as being the principal pedagogical and treatment interventions differentiating NGs from mainstream classrooms. This was confirmed by classroom observations in which NG teachers were found to use a significantly higher overall frequency of constructive behaviour support and attunement strategies relative to mainstream teachers of corresponding grade levels. This also held true when the frequency of each individual strategy was analyzed separately; suggesting that NG staff are significantly more sensitive and responsive to students' emotional needs, helping them feel valued and held in mind. Apart from the

element of constructive behaviour support implementation unique to the present study, results are consistent with those of Cubeddu and MacKay (2017).

A closer inspection of individual strategies revealed that the routine provision of constructive behaviour support to students most clearly differentiates the Montreal NGs from mainstream classes. This suggests NG staff are more intentional in the prevention, co-regulation of emotion and response to dysregulation – a particularly important finding considering that SEMH difficulties are among the leading reasons students are removed from their mainstream classrooms (Hemphill et al, 2014). After constructive behaviour support, use of the deepening discussion strategy differentiated NGs most significantly from mainstream classes. Deepening discussion involves sharing viewpoints, collaborative conversations, naming differences of opinion and reaching new shared understandings (ie, connection). However, it is worth noting that deepening discussion had the lowest frequency of implementation when compared to the other strategies in both NG and mainstream classes. The relatively limited use of this strategy is not a reflection of teachers' disinterest in their students' opinions or internal worlds. Instead, it likely reflects the significant amount of time teachers would need to be separated from the whole NG group in order to provide undivided attention to a single student. In mainstream classes with higher staff-student ratios (ie, 1:12 in mainstream compared to 3:8 in NGs for this study), it may not be possible for teachers to systematically practice deepening discussions with each individual student while also managing the larger group and meeting curriculum standards. Across 12 hours of observations, this strategy was only observed once in mainstream classrooms, compared to 25 occurrences across four hours of observations in NGs. The lower staff-student ratios of NGs likely provides teachers and support staff the opportunity to individualise interaction to a greater degree than would otherwise be possible.

It is also worth noting that overall and individual strategy implementation did not differ significantly between NG teachers, implying that the Montreal-based NGs delivered an equivalent intervention that was consistent with their programme description (ie, Logic Model). However, when the overall frequency of strategy implementation was compared across the six mainstream teachers, a statistically significant difference emerged. The finding of greater homogeneity in attunement strategies among NG teachers as compared to mainstream teachers is not unexpected given that these strategies are intentionally taught, monitored and reinforced by the NG clinical director, whereas such specific training and support is rarely provided to mainstream teachers.

2.10 Limitations and future directions

The NG programme description and implementation assessment revealed two noteworthy departures from Boxall's classic NG. The classic model was designed to accommodate students aged four-eight years in groups of 10-12 in their neighbourhood school supported by one teacher and one teaching assistant. The Montreal-based NGs accommodated students aged between six and nine years in groups of eight with one teacher and two support staff. As students generally did not remain in their neighbourhood schools but instead were transported to a different school that was the host site for the NG – daily visits to their homerooms were not an option. Second, although designed and intended to adhere to the 'Six Nurture Principles for Learning' (Nurture International, 2021), it is possible that the Montreal NGs operationalised or emphasised these principles in slightly different ways or proportions than is the case in more classic NGs. It was evident that the Montreal NGs implemented constructive behaviour support and attunement strategies in a routine way and at much higher frequency than in matched traditional classrooms, but the extent to which these findings generalise to other classic NGs is hard to specify. Moreover, the resources unique to these Montreal NGs (eg, weekly play therapy) may not reflect NG implementation in other jurisdictions. In addition to the small-scale nature of this study, the generalisation of the results may have been constrained to some degree by the social distancing and facial masks regulations necessitated by the Covid-19 pandemic. More specifically, NG staff reported that the pandemic consistently made it more difficult to meet students' proximity-seeking safe-haven needs, as well as and to convey and interpret emotional tone (ie, to be as attuned as they would have been under normal circumstances).

Implementation fidelity strengthens the validity of outcome studies and it is the best estimate of implementation quality (Breitenstein et al, 2010). The absence of data linking specific classroom practices to student outcomes limits the conclusions that can be drawn from research in support of NGs as an effective school-based intervention for at-risk students. For this reason, future research evaluating student progress in social-emotional-behavioural functioning as result of placement in a NG would benefit from the systematic inclusion of fidelity measures. Further, by informing and guiding intervention, measures of implementation fidelity could increase implementation reliability across NGs, as well as improve programme efficacy, staff training and supervision (Fixsen et al, 2005).

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CHAPTER 3
**REACHING AND TEACHING STUDENTS: USING NURTURE GROUPS TO IMPROVE SCHOOL
FUNCTIONING AMONG MONTREAL CHILDREN WITH DEVELOPMENTAL TRAUMA**

Article published in the *International Journal of Nurture in Education*

Cloran, P., Rivard, M., & Bennett, A. (2022). Reaching and teaching students. *The International Journal of Nurture in Education*, 8(1), 23 –36.

Note: The linguistic style of this article respects the norms of the International Journal of Nurture in Education.

Data availability statement: The data that support the findings of this study are available on reasonable request from the corresponding author.

3.1 Abstract

In the 1960s, educational psychologist Marjorie Boxall developed Nurture Groups (NGs) in response to the growing number of children who were deprived of healthy nurturance in early life and who, as a result, were failing to cope with the demands of school. To date, research on this intervention model has consistently shown that students who attend a NG for at least one school year are much more likely to demonstrate improvements in school functioning than other at-risk students who do not. However, the conclusions that can be drawn about the beneficial effects of NGs are somewhat limited by the heterogeneity in practices among groups bearing the NG name and by the absence of data explicitly linking positive student outcomes to specific practices within NG classrooms. Both these limitations could be addressed by a more systematic effort to consider the question of implementation fidelity. Thus, the objective of the present study was to measure student progress in NGs for which detailed information about the intervention's implementation fidelity was available. In two NGs known to implement relatively high frequencies of nurture-based interventions (ie, attunement strategies and constructive behaviour support), results revealed statistically and clinically significant improvements in social, emotional and behavioural functioning following a nine-month period of intervention. More research relating NG efficacy to implementation procedures is needed in order to better understand the most effective ingredients of this intervention.

Keywords: nurture groups, implementation, attunement, constructive behaviour support

3.2 Introduction

According to van der Kolk (2005, 2014), the term ‘developmental trauma’ distinguishes the experience of multiple and/or prolonged exposures to one or more developmentally adverse interpersonal events in early life (eg, abandonment, neglect, verbal/emotional abuse, physical or sexual abuse) from other forms of acute (eg, motor vehicle accident, a hurricane) or chronic stress (eg, receiving regular invasive medical treatment for an illness, growing up in a war-torn area). Among the many later problems associated with developmental trauma, such as reductions in brain integrity, autoimmune disorders, obesity, diabetes, alcoholism and depression (Afifi et al, 2014; Felitti et al, 1998; Gilbert et al, 2015; Kaffman, 2009), marked relational difficulties in childhood is one of the earliest signs (Bowlby, 1973). In the absence of protective factors, the effect of having been routinely mistreated or neglected by a primary attachment figure is associated with the development of an insecure or disorganised style of attachment (Bowlby, 1973; Geddes, 2017; Swarbrick, 2017) and, consequently, a host of social, emotional and mental health (SEMH) difficulties (van der Kolk, 2015).

In the 1960s, educational psychologist, Marjorie Boxall, introduced Nurture Groups (NGs) in response to the growing number of children who were deprived of healthy nurturance in early life and who, as a result, were failing to cope with the demands of school (Bennathan & Boxall, 2000). Boxall’s idea was to recreate the interpersonal experiences missing from infancy onwards in the school setting. By providing the safety, attunement and reliable structure required for children to feel contained and cared for, students can begin to form secure, trusting relationships with secondary attachment figures (ie, teachers and teaching assistants) (Bennathan & Boxall, 2000; Bowlby, 1969). The development of a secure style of attachment with school personnel gradually allows for a broadening of the child’s ‘internal working model’; the cognitive framework comprising mental representations for understanding self and others (Bowlby, 1969). Importantly, the adaptive revision of negative internal working models of the self (eg, damaged, unworthy, unwanted) and of others (eg, dangerous, rejecting, unreliable) leads to improvements in school functioning via the child’s increasing responsiveness to adult co-regulation and scaffolding and willingness to take academic risks (Cairns & Cairns, 2016).

Research on this model has shown that students who attend a NG for at least one school year are much more likely to demonstrate improvements in school functioning than other at-risk students who remain in a mainstream classroom (Cooper & Whitebread, 2007; Hughes & Schlösser, 2014). However, the conclusions that can be drawn about the beneficial effects of NGs are limited to a degree by the

heterogeneity in practices among groups bearing the NG name (Cooper & Whitebread, 2007; Middleton, 2021) and by the absence of data explicitly linking positive student outcomes to specific practices within NG classrooms (Kearney & Nowek, 2019). Both these limitations could be addressed by a more systematic effort to address implementation fidelity which essentially asks the question ‘to what degree is the NG intervention being delivered as intended?’ (Balisteri, 2016; Breitenstein et al, 2010; Fraser-Smith & Henry, 2016). Outcome studies on NGs with records of implementation would help to (a) gain an understanding of how NGs in different regions are being operationalised, (b) identify the key ingredients responsible for positive student outcomes, (c) adjust NG practices to optimise success, and (d) provide an indication of implementation quality (Breitenstein et al, 2010). As an initial step toward addressing these issues, the present study sought to measure improvements in school functioning among students in two Montreal, Quebec-based NGs for which documented measures of NG implementation were available.

3.3 Research to date

Systematic reviews conducted by Bennett (2015) and Hughes and Schlösser (2014) have found that NGs are effective at reducing the social, emotional and behavioural difficulties of students. For example, in two investigations of classic NGs, significant improvements were reported on the ‘peer problems, prosocial behaviour and hyperactivity’ sub-scales of the *Strength and Difficulties Questionnaire* (SQD-t; Cooper et al, 2001; Seth-Smith et al, 2010). These same studies also revealed significant improvements among NG students on the ‘developmental’ strand (ie, measuring cognitive and social-emotional development) and ‘diagnostic’ strands (ie, measuring behaviours that interfere with social and academic performance) of the Boxall Profile. Cooper and Whitebread (2007) reported similar findings in a national research study examining the combined effectiveness of the different models of NGs, including the classic model, the part-time model and ‘NG variants’ that deviate somewhat from the theoretical and/or practical underpinnings of classic NGs. A total of 359 students in 34 schools with NGs were compared to a representative sample of 187 students in mainstream classes. Results revealed significant improvements on the SQD-t and Boxall Profile among NG participants relative to mainstream students. However, the heterogeneity in practices among the NGs considered by Cooper and Whitebread (2007) makes it difficult to isolate the components of the NG experience that were most responsible for the positive outcomes (Hughes & Schlösser, 2014).

3.4 Research objective and context of the study

The objective of the present study was to measure student progress in NGs for which there exists detailed information about the NG's implementation practices. This was the case for two Montreal-based NG variants that underwent a comprehensive implementation assessment conducted by the authors of this study and whose results are summarised in Table 3.1. The following excerpt from Cloran et al (2022) highlights the ways in which these groups diverged from the classic NG model:

'Inspired by the widespread adoption of NGs in the UK, one Montreal-based school board independently set up two full-time NGs that have been in continuous operation for the last 12 years. These classes were developed based on the founding principles of classic NGs and adapted to the context of the province's education system and resources. The NG targets students in grades 1-3 (ie, six to nine years) with very significant SEMH difficulties, for whom school personnel strongly suspect a disturbed attachment between the child and their primary caregiver(s) and/or who have a documented history with child protective services. As the school board covers a large geographical area, students are assigned to the NG that is closest to the neighbourhood in which they reside (ie, a *point-of-service* model). As such, daily visits to students' homerooms were not an option.'

The observation and recording of teaching practices was conducted using the methodology devised by Cubeddu and MacKay (2017) and revealed significant differences between NGs and mainstream classrooms of corresponding grade levels. Consistent with the findings of Cubeddu and MacKay (2017), NG teachers employed attunement strategies, a key component of nurturance and secure attachment (Schore, 2001), significantly more frequently than mainstream teachers of corresponding grade levels. Specifically, NG teachers implemented the six strategies identified by Kennedy, Landor and Todd (2011) which have been found to promote attuned interactions by two meta-analyses (Bakermans-Kranenburg, Van Ijzendoorn, & Juffer, 2003; Fukkink, 2008). These included being attentive, encouraging initiatives, receiving initiatives, developing attuned interactions, guiding and deepening discussions. In addition to the relatively high frequency of implementation of strategies aimed at developing attuned interactions, NG teachers also differed from mainstream teachers in terms of the frequency of 'constructive behaviour support' (ie, a strategy of co-regulation or scaffolding). Constructive behaviour support was often labelled by the Montreal NG staff as 'firm-caring' and described as involving proactive and intentional adult efforts to increase environmental predictability and security (eg, routines, rituals, frequent reminders of the classroom expectations and rules, explicit acknowledgment of pro-social behaviours) and manage student

dysregulation in a very particular and consistent way (ie, non-judgmental, affect neutral approach, neutral emotional tone, concerted attempt to look beneath the surface behaviour to try to understand the emotional trigger).

3.5 Ethics

The present study was carried out in accordance with the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans of the Canadian Panel on Research Ethics*, whose research ethics committee approved this study. Ethical approval was also granted by the Research Ethics Committee for Student Projects at the Université du Québec à Montréal, as well as by the Montreal school board's own internal ethics committee. Legal guardians were made aware of this study by means of an informational flyer shared with them by the school board's director of student services. Interested parents/guardians were invited to contact the lead author. Informed consent was obtained from all participants prior to the commencement of the observations. Consent forms outlined the (a) general objectives of the study, (b) investigative procedures, (c) advantages and risks, (d) data confidentiality, and (e) the right to withdraw consent at any time without any prejudice. Additionally, the contact information of each author and of the ethics committee was made available in case of comments, questions, or complaints.

Table 3.1 Program Description of Two Montreal-based NGs (Cloran et al, 2022)

NG Organisational Supports		
<p>Cost</p> <ul style="list-style-type: none"> ▪ \$250,000 CAD 	<p>Technology</p> <ul style="list-style-type: none"> ▪ iPads, computers 	
<p>Equipment/physical space</p> <ul style="list-style-type: none"> ▪ One traditional classroom space ▪ One domestic area ▪ One relaxation area 	<p>Materials</p> <ul style="list-style-type: none"> ▪ Developmental curriculums (eg, socio-emotional) ▪ Academic curriculums and learning materials ▪ Classroom and home decor furnishings, food 	
<p>Class organisation</p> <ul style="list-style-type: none"> ▪ Full-time classroom personnel: 1 teacher, 1 teaching assistant, 1 special education technician ▪ Part-time personnel: 1 NG director, 1 psychologist, 1 vice principal, 1 principal ▪ 8 students, ages 6-9 years 	<p>Transport and daycare</p> <ul style="list-style-type: none"> ▪ Daily door-to-door specialised transportation (eg, minibus) for all NG students from their domicile to the NG host school, round-trip ▪ Before and after school daycare services provided by the school hosting the NGs 	
<p>Weekly supports</p> <ul style="list-style-type: none"> ▪ 8x student psychotherapysessions by NG psychologist ▪ 2x family psychotherapy sessions by NG psychologist ▪ 3x school progress meetings w/ guardians by NG classroom personnel ▪ 2x meetings with social services for students by NG classroom personnel and NG psychologist 	<p>Annual supports</p> <ul style="list-style-type: none"> ▪ 6x NG classroom personnel act as liaison to health services for students ▪ 2x NG classroom personnel act as a liaison to health services for guardians ▪ 2x NG classroom personnel accompany student and guardian to medical appointment 	
<p>Intake support/student</p> <ul style="list-style-type: none"> ▪ 1x intake meeting with school of origin ▪ 1x intake meeting with guardian(s) ▪ 1x observation in school of origin ▪ 1x case review by NG director with the NG team 	<p>Discharge support/student</p> <ul style="list-style-type: none"> ▪ 1x discharge meeting with guardian(s) ▪ 1x discharge evaluation/report ▪ 1x meeting with school of origin ▪ 5 days of re-integration support ▪ 3-5 days of post-re-integration support 	
<p>Other supports</p> <ul style="list-style-type: none"> ▪ 4 hours of bi-weekly supervision and training for classroom personnel ▪ 10 workshops offered to mainstream school board staff on nurturing and trauma-informed practices ▪ 6 case consultations with multidisciplinary professionals per class 		
Mean frequency of NG teacher interventions/60-minute interval as compared to mainstream teachers		
	NG TEACHERS (N=2)	MAINSTREAM TEACHERS (N=6)
Being attentive	13	4
Encouraging initiatives	14	4
Receiving initiatives	14	6
Developing attuned interactions	9	2
Guiding	23	10
Deepening discussion	6	0
Constructive behaviour support	25	5
Total	104	31

3.6 Methods

3.6.1 Participants

Consent was obtained for five of the eight students in one NG and seven of the eight students in the other group. As no significant NG implementation discrepancies emerged between the two NGs (Cloran et al, 2022), students were evaluated as a single group (N=12) for the pre- and post-intervention comparisons. To better understand the characteristics of NG students and their families, legal guardians completed the Developmental History Checklist for Children (DHCC; Dougherty & Schinka, 1989) and the school-age Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2001). The DHCC provides information about a child's developmental, educational, medical, familial and socio-demographic history, while the CBCL evaluates students on eight empirically-based syndrome scales: (a) anxious/depressed, (b) withdrawn/depressed, (c) somatic complaints, (d) social problems, (e) thought problems, (f) attention problems, (g) rule-breaking behaviour, and (h) aggressive behaviours.

The CBCL also provides composites scores for internalising and externalising syndromes, as well as for total problems. The 'internalising grouping' (ie, problems arising within the self) is comprised of the 'anxious/depressed', 'withdrawn/depressed' and 'somatic complaint' syndrome scales, while the 'externalising grouping' (ie, problems arising within the interpersonal environment) is comprised of the 'rule-breaking' and 'aggressive behaviour' syndrome scales. The total problems score is an overall representation of a student's SEMH difficulties. Exposure to developmental trauma was assessed via the Adverse Childhood Events (ACE) questionnaire. To minimise family burden, NG teachers completed an adapted ACE questionnaire developed for school personnel which has been found to produce developmental trauma prevalence estimates consistent with those of caregiver reports (Blodgett & Lanigan, 2018).

Students in the NGs were, on average, aged seven years, five months at the time of admission (from a range of six years, six months to eight years, ten months). Legal guardians identified students as being primarily Caucasian, with one black student and one mixed-race student. Among nine boys and three girls, one student was in Grade 1, six students were in Grade 2 and five students were in Grade 3. On the CBCL, legal guardians rated students especially high on the 'attention problems', 'rule-breaking behaviour' and 'aggressive behaviour' scales, as well as on the 'externalising syndrome' and 'total problems' composites (Table 3.2).

Table 3.2 Average Student Percentile Score on CBCL (pre-admission)

Syndrome Scales	Percentile
Anxious/depressed	88 th
Withdrawn/depressed	90 th
Somatic complaints	73 rd
Social problems	92 nd
Thought problems	88 th
Attention problems	95 th
Rule-breaking behaviour	95 th
Aggressive behaviour	97 th
Internalising syndromes	90 th
Externalising syndromes	98 th
Total problems score	97 th

The DHCC (Table 3.3) revealed that many biological fathers did not hold a high school diploma and were primarily employed in unskilled (eg, factory worker) or skilled jobs (eg, carpentry, clerical). Similar characteristics were noted for biological mothers. Of the 12 families in this study, three reported benefitting from the province's social assistance programme (ie, poverty-level), six families self-identified with 'lower class' socio-economic status and three families with 'middle class' status.

Table 3.3 Household and Caregiver Characteristics (Legal Guardian Report, pre-admission)

Child custody	Both biological parents	7
	Single biological parent	4
	Adoptive parents	1
Economic status	Poverty level	3
	Lower class	6
	Middle class	3
Biological father education	Some high school	5
	High school diploma	3
	Trade school diploma	2
	Some college	1
Biological father occupation	Unskilled worker	2
	Skilled worker	7
	Other	3
Biological mother education	Some high school	5
	High school diploma	1
	Some college	3
	College diploma	3
Biological mother occupation	Unskilled worker	2
	Skilled worker	4
	Unemployed	4
	Other	2

On the adapted ACE questionnaire for school personnel (Table 3.4), NG teachers rated students on 10 questions at the time of discharge based on factual knowledge acquired over the course of students' participation in the NG (eg, guardian disclosure, direct staff knowledge of ACE exposure, etc.). Results revealed that students had experienced, on average, more than four different types of adverse childhood events. Inspection of each individual ACE item revealed that two thirds of the NG students (ie, 8 out of 12) were characterised by each of the following: (a) past or present involvement by child protective services, (b) divorced or separated parents and/or (c) a caregiver with a substance abuse problem. Half of the NG students had unmet basic needs as observed at school (eg, nutrition, clothing, or hygiene) and the majority of students had at least one caregiver with mental health issues.

Table 3.4 Student Exposure to Adverse Childhood Events (N=12)

Adverse Event	N=12
Has this child ever been homeless or highly mobile?	3
Has this child ever had a Youth Protection involvement or government placement?	8
Has this child ever had unmet basic needs that interfere with school adjustment?	6
Have this child's parents been divorced or separated?	8
Has this child experienced the death of a primary caregiver?	0
Has any member of this child's family ever been incarcerated?	2
Does this child have a caregiver with a mental health problem?	10
Does this child have a caregiver with a substance abuse problem?	8
Has this child ever witnessed or been the victim of domestic violence	5
Has this child ever witnessed or been the victim of community violence?	2
Average ACE score/student	4.33

3.6.2 Procedures and instruments

To measure student progress in response to specific practices within the NGs, five instruments were administered approximately two weeks after student admission and again within the last two weeks preceding their discharge from the NG. On average, the time between intake and discharge measures was just over nine months, the equivalent of one full school year in the Quebec education system.

The Behaviour Rating Inventory of Executive Functioning, Second Edition (BRIEF-2; Isquith et al, 2015), the Student-Teacher Relationship Scale (STRS; Pianta, 2001), Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2001) and direct observations of student behaviour were completed by the NG teacher, while the Piers-Harris 3 Scale of Self-Concept (Piers et al, 2018) was completed by students with the support of a teaching assistant.

The BRIEF-2 is a questionnaire rating executive functions (ie, the set of the mental processes that allow individuals to learn, work and manage daily life), a strong predictor of academic, social behavioural and emotional functioning (Isquith et al, 2015). The Behaviour Regulation Index (BRI), composed of the 'inhibit' and 'self-monitor' scales, measures the student's ability to regulate and monitor behaviour effectively. The Emotion Regulation Index (ERI), composed of the 'shift' and 'emotional control' scales, reflects the child's ability to regulate affective responses and shift thinking patterns to adjust to changes in environment, people, plans, or demands. The Cognitive Regulation Index (CRII), composed of the 'initiate', 'working memory', 'plan/organise', 'task-monitor' and 'organisation of materials' scales, measures the child's ability to control and manage cognitive processes in order to problem solve and complete tasks effectively (eg, schoolwork). The Global Executive Composite is a composite summary score of all BRIEF-2 scales.

The STRS measures the overall quality of a teacher's relationship with a particular student based on perceived closeness, conflict and dependency (Pianta, 2001). This scale was developed with specific reference to 'attachment theory' (Settani et al, 2015) and is the most commonly used measure of teacher-student relationship (Toste et al, 2012). The 'closeness' subscale measures the degree to which a teacher experiences affection, warmth and open communication with a student. The 'conflict' and 'dependency' subscales measure the extent to which a teacher perceives a student to be hostile or over-reliant, respectively.

The Piers-Harris 3 is a brief, self-report measure of self-concept (ie, perception of one's own behaviour and attitudes) that can be used to assist in the diagnosis of externalising and internalising disorders (Piers et al, 2018). Test items are simple descriptive statements, written at a Grade 1 reading level (eg, 'I am an important member of my class', 'I sit alone at lunch', etc.). The Piers-Harris 3 is comprised of six scales: (a) behavioural adjustment, (b) freedom from anxiety, (c) happiness and satisfaction, (d) intellectual and school status, (e) physical appearance and attributes, and (f) social acceptance. When combined into a composite, the six scales provide a total score (ie, an overall measure of general self-concept). Higher scores indicate a higher or more positive self-concept (ie, self-esteem or self-regard), whereas lower scores are associated with a poorer self-concept.

Partial-interval recording is a method used to measure the occurrence or non-occurrence of a behaviour during a specified time interval (Cooper et al, 2019). In this study, partial interval recording was employed in 15-minute time samples by the NG teacher to measure the frequency of behaviours that interfere with school functioning. Challenging behaviours included externalising (eg, aggression, bullying, hyperactivity,

difficulty managing emotional behavioural arousal) and/or internalising behaviours (eg, withdrawn or shut down, prominent symptoms of anxiety).

Like the CBCL completed by parents, the Teacher Report Form (TRF) was completed by NG teachers and provides six syndrome scales, composites scores for internalising and externalising grouping of syndromes, as well as a total problems score (Achenbach & Rescorla, 2001).

3.7 Results

Student scores were analysed using a series of two-tailed matched-paired t-tests to compare mean scores at NG intake and discharge. Each measure was analysed separately with an alpha of .05, of which .025 was used to detect improvement and .025 was used to detect decline.

As measured by the BRIEF-2, students experienced significant improvements on the Behavioural and Emotional Regulation Indices ($p < .01$, $p < .001$), as well as the Global Executive Composite ($p < .001$) (Table 3.5). In addition, the three scores which did not reach statistical significance, 'self-monitor' and 'initiate' scales and the Cognitive Regulation Index, all moved in a positive direction.

Table 3.5 Mean T-scores on the BRIEF-2 ($N=12$)

Scale	Intake	Discharge	Significance
Inhibit	67.83	57.50	*
Self-monitor	65.33	58.42	NS
Behavioural Regulation Index	68.92	58.92	**
Shift	68.42	57.58	**
Emotional control	74.17	60.25	**
Emotional Regulation Index	73.33	58.33	***
Initiate	56.58	51.17	NS
Working memory	60.17	48.58	**
Plan/organise	60.17	49.92	**
Task-monitor	60.17	49.50	**
Organisation of materials	54.58	45.00	*
Cognitive Regulation Index	56.25	49.33	NS
Global Executive composite	67.17	54.08	***

Note. Significance levels from matched-pairs t-tests ($df = 11$).

*** $p < .001$; ** $p < .01$; * $p < .05$; NS: not significant

The results of the STRS revealed significant improvements on the ‘conflict’ subscale ($p < .05$) and in the overall quality ($p < .05$) of the NG teacher relationship to students (Table 3.6). Noteworthy improvements in the ‘closeness’ and ‘dependency’ subscales were also observed. Reduced conflict and dependency combined with higher closeness scores suggests that the teachers felt more connected and effective in their ability to support their students (Pianta, 2001).

Table 3.6 Mean Percentile Scores on the STRS ($N=12$)

Scale	Intake	Discharge	Significance
Closeness	44.83	54.17	NS
Conflict	78.67	53.83	*
Dependency	67.67	57.67	NS
Overall quality	26.67	46.42	*

Note. Significance levels from matched-pairs t -tests ($df = 11$).

*** $p < .001$; ** $p < .01$; * $p < .05$; NS: not significant

Changes in the self-perceptions of NG students over time were measured by the Piers-Harris 3 (Table 3.7). Following the NG intervention, students reported significant improvements in their ‘overall self-concept’ scale, as well as in the ‘social acceptance’ and ‘intellectual & school status’ scales. The scales that did not meet significance (ie, behavioural adjustment’, ‘freedom from anxiety’, ‘happiness & satisfaction’ and ‘physical appearance’) moved in a positive direction.

Table 3.7 Mean T-scores on the Piers-Harris 3 ($N=12$)

Scale	Intake	Discharge	Significance
Behavioural adjustment	40.33	42.50	NS
Freedom from anxiety	42.83	44.17	NS
Happiness & satisfaction	44.75	48.33	NS
Intellectual & school status	43.17	47.08	*
Physical appearance	49.33	53.50	NS
Social acceptance	41.67	49.67	*
Overall self-concept	41.25	48.17	*

Note. Significance levels from matched-pairs t -tests ($df = 11$).

*** $p < .001$; ** $p < .01$; * $p < .05$; NS: not significant

On the syndrome scales of the TRF (Table 3.8), teachers reported significant improvements on the ‘withdrawn/depressed’ ($p < .05$), ‘social problems’ ($p < .01$), ‘attention problems’ ($p < .01$) and ‘aggressive behaviour’ scales ($p < .001$). Somatic complaints increased slightly, whereas scores on the remaining scales of ‘anxious/depressed’, ‘thought problems’ and ‘rule-breaking behaviour’ all went down, despite not reaching statistical significance. Results also revealed significant improvements on the internalising syndrome ($p < .05$) and externalising syndrome ($p < .001$) scales as well as the total problems score ($p < .001$). Teacher-reported improvements in SEMH difficulties measured by the TRF were consistent with the results of direct observations of externalising and internalising challenging behaviours ($p < .001$). Upon NG entry, students engaged in behaviours that interfered with school functioning for approximately 60% of the day, on average (ie, roughly four hours in a 6.5-hour school day). By NG completion, the frequency of problematic behaviour decreased to 17% (ie, roughly one hour per school day).

Table 3.8 Mean T-scores on the TRF ($N=12$)

Scale	Intake	Discharge	Significance
Anxious/depressed	62.67	56.92	NS
Withdrawn/depressed	60.17	55.83	*
Somatic complaints	51.33	52.58	NS
Social problems	66.08	59.50	**
Thought problems	65.17	59.42	NS
Attention problems	65.25	57.83	**
Rule-breaking behaviour	67.83	63.83	NS
Aggressive behaviour	69.25	61.00	***
Internalising syndromes	69.67	60.83	*
Externalising syndromes	63.42	53.17	***
Total problems score	70.42	60.92	***

Note. Significance levels from matched-pairs t -tests ($df = 11$).

*** $p < .001$; ** $p < .01$; * $p < .05$; NS: not significant

3.8 Discussion

An investigation of participant characteristics underscores the difficult and complex realities of many NG families. The majority of legal guardians in this study reported a low or poverty-level socio-economic status and were employed primarily as manual labour workers. Nearly half of guardians did not complete their secondary education while most others did not complete a post-secondary education degree. Students in

the NGs had already experienced, on average, more than four ACEs by their early elementary years. For example, most students in the Montreal NGs had a history of child-protective services involvement and a legal guardian with mental health and/or substance abuse problem. In addition, half of the students were identified by NG personnel as routinely having unmet basic needs (eg, food, hygiene, clothing and sleep). These findings are particularly concerning given the dose-response relationship between ACEs and lifelong mental and physical health difficulties (Felitti et al, 1998). Unfortunately, guardian and teacher reports of school functioning provide strong indication that exposure to developmental trauma had already led to a clinical level of maladjustment by the time students were referred to the NG. Reflective of this possibility are indications that NG students were, on average, at the 97th percentile on the total problems score of the TRF; a very reliable measure of SEMH difficulties (Achenbach & Rescorla, 2001). While internalising syndromes were elevated relative to same-age peers, it was their self-regulation (eg, rule-breaking and aggressive behaviours) that was the most problematic area of functioning for NG students at intake.

By the end of a single school year in a NG, students were rated as being within the normal range on all scales of the TRF. This finding is striking given the severity of SEMH difficulties apparent at NG intake. Consistent with the findings of Seth-Smith et al (2010) and Cooper et al (2001), students demonstrated the greatest improvements in the areas of socialisation, attentional functioning and aggressive behaviour. Marked reductions in social difficulties is a particularly encouraging finding given that socio-emotional literacy and interpersonal skills are explicitly taught and reinforced in NGs. In addition to the didactic component of the NG, it is also possible that being part of a class of similarly challenged peers combined with NG personnel's welcoming, non-judgmental approach fostered feelings of safety and belonging among students that, in turn, encouraged them to take interpersonal risks and to begin to develop meaningful connections. Consistent with these possibilities, students reported significant increases on measures of perceived social acceptance and school status. NG participation also seemed to have robust effects on self-control with improvements observed in several related areas of emotional, behavioural and cognitive regulation. For example, teachers observed significant improvements in task monitoring and completion, sustained attention, working memory, planning, organisation, behavioural inhibition, tolerance to change and emotional control. Although of a lesser magnitude, students also showed signs of improvement in their ability to self-monitor (ie, awareness of the impact of one's behaviour on other people and outcomes) and independently initiate tasks.

As research investigating NG effectiveness has been criticised for failing to include direct measures of student comportment (Hughes & Schlösser, 2014), the present study complemented parent and teacher ratings of child functioning with classroom observations. Overall, the results of direct observation were consistent with the improvements in school functioning reflected by the TRF and BRIEF-2 scores. On average, the proportion of class time NG students were engaged in some form of social, emotional and/or behavioural difficulties (eg, withdrawal, teasing, arguing, etc.) decreased from approximately four hours to one hour per school day. This finding should be emphasised as it may help teachers set realistic expectations and establish a safe haven/secure base along with proactive supports (eg, preparing students for changes in routine or for the unexpected, rehearsing upcoming social circumstances that they will likely find challenging, etc) with NG students when they re-integrate into mainstream classrooms following graduation from their NG placement.

Statistically significant and clinically meaningful improvements in school functioning following nine months of intervention appear to be at least partially linked to the specific practices within these NGs. NGs in this study were known to implement six attunement strategies, a key component of nurturance and secure attachment (Schore, 2001), three times more frequently than mainstream teachers of corresponding grade levels (Cloran et al, in press). Given the relationship between attunement, secure attachment and self-regulation (Cairns & Cairns, 2016), it is reasonable to conclude that the NG teacher's awareness and responsiveness to student needs fostered improvements in school functioning (Geddes, 2017). Persistent efforts by the NG teachers to provide students with attuned interactions and thereby co-create connection may have also contributed to improvements in the overall quality of the student-teacher relationship (ie, from the 1st percentile to 34th percentile), as well as to student-rated improvements in overall self-esteem (ie, from the 18th to 42nd percentile, on average). Consistent with Bowlby's theory of attachment, these positive changes may be indicative of a shift in the child's underlying relational template wherein adults begin to be seen as trustworthy and dependable, and the self is experienced as progressively more capable and worthy of affection (ie, an adaptive revision of children's IWMs).

NGs in this study also differed from mainstream classrooms in terms of the frequency of constructive behaviour support (Cloran et al, in press). As antecedent interventions (eg, scaffolding and co-regulation) have demonstrated efficacy at reducing both severe and high-frequency problematic behaviours (Lavigna & Willis, 2012), it is likely that the frequency of constructive behaviour support in NGs (ie, five times more frequent in Montreal NGs vs mainstream settings) contributed to student improvement in emotional and

behavioural regulation. Other practices which may have contributed to the effectiveness of these NGs include counselling sessions offered to students (weekly) and their families (monthly), frequent communication with health and social services to initiate and/or coordinate community support, as well as four hours of bi-weekly clinical supervision and training for NG personnel.

3.8.1 Limitations and future directions

This study had a few noteworthy limitations. First, despite the significant improvements in school functioning experienced by NG students, the small sample size limits the generalisation of the results. To build on the findings of this study, investigators seeking to link student outcomes with specific NG practices should aim to achieve a sample size that would allow, at a minimum, for power calculations to be performed. Furthermore, this study did not investigate whether improvements in school functioning were maintained post-intervention. As such, it is impossible to determine the extent to which the improvements demonstrated by students were transferable and stable in mainstream settings. As longitudinal studies are an identified research need in the NG literature (Bennett, 2015), systematic follow-ups would provide an indication of NG effectiveness over time.

Finally, data collection for this study took place at the height of the Covid-19 pandemic. External variables unique to this unprecedented crisis may have indirectly impacted NG effectiveness. For example, a recent study evaluated the impact of Covid-19 on 3,000 parents of children under the age of 18 years in Canada and found: (a) declines in mental health, (b) increased alcohol consumption, (c) increased suicidal thoughts/feelings, and (d) increased distress related to not being safe from physical, emotional and domestic violence (Gadermann et al, 2021). These findings suggest that problematic household dynamics among NG families could have been aggravated during this study, which in turn, may have had led to more adverse effects on NG participants (ie, worsening of SEMH difficulties). Additionally, NG personnel reported that the pandemic consistently made it more difficult to meet students' proximity-seeking needs and to convey and interpret emotional tone (ie, to be as attuned as they would have been under normal circumstances). A comparison of studies conducted during and following the Covid-19 pandemic may reveal some of the ways in which implementation and outcomes were impacted in NGs.

3.9 References

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CHAPTER 4

DISCUSSION

NGs are well-established in the UK as a meaningful school-based intervention for early primary school children who have been raised in circumstances of adversity sufficiently severe to limit or disturb healthy development (Boxall, 2010), but research on the efficacy of this approach outside the UK is limited. This thesis consists of a comprehensive program evaluation of two NG variants in Montreal, Quebec. These groups were developed based on the founding principles of Boxall's classic NG model and adapted to the context of the province's education system and resources. School board stakeholders sought a formal research partnership with the authors to measure student improvement in SEMH functioning following one academic year of full-time attendance. In addition to parties invested in this study, the results may be of interest to educational stakeholders across the province given a 38% increase in the number of reports of maltreatment in Quebec over the last five years (Directeurs de la protection de la jeunesse, 2018, 2022), the strong association between early life maltreatment and school adversity (Carrion & Wong, 2012), and the lack of alternative school-based specialized programs for students with a history of maltreatment. This final chapter includes a summary of program evaluation results and their clinical implications as well as considerations for educational stakeholders seeking to establish a NG. Methodological limitations, directions for future research, and the contributions of this thesis will also be discussed.

4.1 Summary of Montreal NG Variant Program Implementation

The two variant NGs in this study have been in continuous operation for the last 14 years under the leadership of their founding clinical director, a specialist in developmental trauma. The Logic Model developed by the NG team for the purposes of this program evaluation resulted in a measurable operationalization of the NGs' organizational features (i.e., resource allocation and service delivery) as well as expectations for teacher behaviour. Record reviews and monthly site visits conducted over the course of one full academic year confirmed the implementation of organizational features outlined in the Logic Model (i.e., program description) whereas direct observation of mainstream and NG teachers emphasized key differences in NG and mainstream teacher behaviour.

4.1.1 Organizational Features

Each NG was assigned a full-time teacher, special education technician and teaching assistant for eight students between the ages of six and nine years (i.e., corresponding to grades 1-3). Personnel assigned to the NGs on a part-time basis included the clinical director, a psychologist, a vice principal, and principal. Consultative services were provided on an as-needed basis by a speech and language pathologist, occupational therapist and social worker. As the school board covers a large geographical area, the NGs operated as a point-of-service (i.e., students were assigned to the NG that was closest to the neighbourhood in which they resided). Consequently, most students would have to leave their school of origin to attend the program. Specialized roundtrip transportation was provided (i.e., mini-bus) and NG students could access before- and after-school daycare services offered by the host school if needed.

Intake procedures for each new admission included an observation of the student in their school of origin, a meeting with the school of origin, a meeting with the family and a case presentation by the clinical director for the receiving NG team. An investigation of student and family characteristics confirmed that the Montreal NGs were effective at restricting admission to children with SEMH difficulties secondary to developmental trauma. On average, students recruited for this study had been exposed to over four different types of ACEs (i.e., types of maltreatment). Most students had past or present involvement by the DYP, parents who were divorced or separated and at least one parent with a mental health problem and/or substance abuse problem. Nearly half of biological mothers and fathers reported never having completed high school and three quarters of families reported a lower class or poverty-level socioeconomic status. Moreover, half of the students were identified by NG personnel as routinely having unmet basic needs (e.g., food, hygiene, clothing, sleep). Considering the dose-response relationship between ACEs and the likelihood of negative health and well-being outcomes (Felitti et al, 1998), the extent of early life hardship experienced by NG students is troubling. Unfortunately, parent and teacher reports of SEMH functioning provided strong indication that exposure to developmental trauma had already led to a clinical level of maladjustment by the time students were referred to the NG. On parent ratings of the CBCL prior to program, NG students fell in the 90th percentile for the Internalizing Syndromes composite (i.e., measuring symptoms of anxiety, depression and somatic complaints) and in the 98th percentile for Externalizing Syndromes composite (i.e., measuring rule-breaking, disruptive, and aggressive behaviour). On the Total Problems scale, a composite scale measuring overall SEMH difficulty relative to same-aged peers (i.e., combining internalized and externalized syndromes), parents rated their children at the 97th percentile. Teacher ratings of school functioning were consistent with difficulties reported by parents.

NGs were furnished with a blend of classroom and home décor with designated spaces for learning, relaxation, and domestic activities (e.g., cooking, sharing meals). Rather than being held to grade-level standards, students benefitted from academic curricula and socio-emotional learning activities tailored to their developmental level. On average, weekly supports offered to each NG by the program psychologist included (a) one individual counselling session per student, (b) two family or parent counselling sessions for a subset of the students, and (c) two meetings or case conferences with community social service professionals supporting the students/their families. In addition, NG classroom staff held an average of three parent meetings per week in order to share information on student progress and offer parenting support/guidance consistent with NG values. On occasion, NG staff acted as a liaison or attended meetings with health service sector professionals for students and parents. Regarding staff training, team members from each NG benefitted from four hours of weekly supervision and workshops with the clinical director. The clinical director and program psychologist also offered an average of 10 workshops per year to mainstream school board staff on nurturing approaches. Discharge supports for each NG student leaving the program included a meeting with parents, a psychoeducational assessment or exit report summarizing the student's response to intervention and recommendations for re-integration, a meeting with the school of origin, five days of re-integration support as well as on-call consultative support to the school of origin following the re-integration period.

4.1.2 Teacher Behaviour

Seven pedagogical practices were identified in the Montreal NGs' Logic Model as being key differentiators between NG and mainstream teacher behaviour. This included the consistent implementation of constructive behaviour support, as well as six attachment-rooted strategies identified by Kennedy and colleagues (2011) for developing attuned interactions. Two 60-minute observations in each NG class and in six different mainstream classes of corresponding grade levels revealed that NG teachers implemented a significantly higher frequency of attunement and constructive behaviour support strategies relative to mainstream teachers. This was true at the level of each individual strategy and for total strategy implementation. Moreover, when the data for each NG teacher were compared, no significant differences were found, suggesting that NG teachers were consistent and comparable in their pedagogical practices. This is not surprising given that attunement and constructive behaviour support strategies have been a focus of NG staff training since the program's inception over a decade ago. Importantly, when the frequency of total strategy implementation was compared between mainstream teachers, significant variability was revealed. These results indicate that mainstream teachers who show greater attunement may be better equipped to

support the re-integration of NG students while others may benefit from training (Ainsworth et al., 2015, Bakermans-Kranenburg et al., 2003). More specifically, as attachment security influences school success, students of teachers who prioritize the establishment of secure relationships in the classroom are more likely to have higher academic achievement (i.e., grades and standardized test scores), emotional regulation, social competence and willingness to take risks (Bergin & Bergin, 2009).

A closer inspection of individual strategies revealed that constructive behaviour support most clearly differentiated the Montreal NGs from mainstream classes. Constructive behaviour support was often labelled by the Montreal NG staff as 'firm-caring' and described as involving proactive efforts to increase environmental predictability and security (e.g., routines, rituals, frequent reminders of the classroom expectations and rules, explicit acknowledgment of pro-social behaviours) and manage student dysregulation in a very particular and consistent way (i.e., non-judgmental, affect neutral approach, neutral emotional tone, concerted attempt to look beneath the surface behaviour to try to understand the emotional trigger). This suggests NG staff were more intentional in their prevention, co-regulation of emotion, and reaction to student dysregulation. This is a particularly important finding considering that SEMH difficulties are among the leading reasons students are removed from their mainstream classrooms (Hemphill et al, 2014). The second individual strategy that most clearly differentiated NG and mainstream teachers was the use of the deepening discussion technique (i.e., sharing viewpoints, collaborative discussion and problem-solving, naming difference of opinion, exploring the intentions behind words, naming contradictions/conflicts). Use of this strategy reflects an effort on the part of NG teachers to address students' limitations with *mentalization*, or the capacity to interpret and understand one's own and that of others' as expressions of underlying mental states such as feelings, thoughts, fantasies, beliefs, and desires (Fonagy et al., 2002). This is noteworthy considering the link between poor mentalization, interpersonal difficulties, severe mental health issues (Jesse van Rensburg et al., 2023).

4.1.3 Comparison with the Classic NG Model

Consistencies between the NG variants investigated in this study and Boxall's classic model include (a) NG student characteristics, (b) classroom and home decor furnishings, (c) an attachment-based approach to teaching, (d) curriculum level adjustments to meet students' developmental levels, (e) opportunities for socio-emotional learning intentionally embedded throughout the day (f) domestic activities included in the daily routine, (g) planned opportunities for parental engagement involvement and parenting support,

(h) consistent and systematic approach to staff training (i) a whole-school approach to nurturing and (i) gradual re-integration into school of origin supported by NG staff.

As variant NGs, the Montreal NGs also differed in several ways from Boxall's classic NG. The classic NG model recommends one teacher and one teaching assistant for 10-12 students between the ages of four and eight years. The Montreal NGs were staffed with one teacher, one teaching assistant, and one special education technician for eight students between the ages of six and nine years. Considering the Montreal NGs are a point-of-service program, its' students are referred from the wide pool of children in difficulty across the school board's 30 elementary schools rather than from the much narrower pool of students in difficulty within a single elementary school as is the case with classic NGs. Thus, Montreal NGs can be seen as providing intervention to a group of students with a greater average level of impairment than a typical NG. For example, ACE scores and ratings on the CBCL provide strong indication that exposure to developmental trauma had already precipitated a clinical level of maladjustment by the time students were referred to the NG. This is concerning considering the graded dose-response relationship between developmental trauma and negative physical and mental health outcomes. Consequently, it was decided that Montreal NGs would support a lower number of students per class (i.e., 8) than a traditional NG (i.e., 10-12) so as to ensure a comparable level of intervention intensity. Moreover, as most students referred to the NG were already exhibiting a clinical level of dysfunction at home and school by the time of their admission, the clinical director deemed it necessary to complement the classic NG interventions in the classroom with weekly therapy for students and families. Lastly, the point-of-service model also made it impossible for NG students to present themselves for attendance in their mainstream homeroom each morning and to participate in class activities for one afternoon per week.

Given the limited specificity of Boxall's pedagogical guidelines for NGs (Nurtureuk, 2019) and a lack of implementation research (Balisteri, 2016; Fraser-Smith & Henry, 2016), it is difficult to know whether certain other services and resources provided by the Montreal NGs are consistent with the classic model. For example, the Montreal NGs received consultative services when needed from school board multidisciplinary professionals and regularly facilitated student/parent engagement with health and social services personnel. As these supports are not explicitly emphasized by Boxall, it is possible that they are unique to the Montreal NG variant. Moreover, as the *Six Nurture Principles for Learning* (Nurture International, 2021) intended to guide and inform NG teaching practices are difficult to operationalize, it is not known whether the relatively high frequency of attunement strategy implementation and

constructive behaviour support observed in the Montreal NGs is also characteristic of Boxall's classic NG model.

4.2 Summary of Student Outcomes

Consent was obtained for five students in one NG and seven students in the other. Considering no significant differences in program implementation between NG teachers (i.e., all students received a comparable intervention), students were evaluated as a single group (N=12). This included nine boys and three girls between the ages of six years, six months and eight years, ten months at the time of admission.

Following nine months of intervention, NG teacher ratings revealed significant improvements in students' depressive symptoms, withdrawal, social difficulties, attention problems, and aggressive behaviours. Although not statistically significant, they also reported reductions in NG student anxiety symptoms, thought problems (e.g., obsessive thinking, compulsions, self-harm), and rule-breaking behaviour. Importantly, data obtained by direct observation was found to be consistent with teacher-reported improvements in SEMH functioning. The duration of student engagement in externalized and internalized behaviours interfering with school functioning (e.g., withdrawal, talking with classmates, arguing with staff, leaving seat, etc.) decreased from approximately four hours per school day at NG entry to one hour per school day by program completion. In other words, NG students demonstrated appropriate behavioural regulation for most of the school day by the end of one year of intervention. While this finding is encouraging, it also suggests that mainstream teachers should both anticipate challenging behaviours of a relatively lower frequency at re-integration and be adequately trained to prevent/respond to students SEMH difficulties. In addition to improvements in SEMH functioning at school, NG teachers reported significant improvements in students' executive functioning. This suggests that students developed the ability to resist impulses, assess the impact of one's behaviour on self and others, modulate affective responses and shift thinking patterns to adjust to changes in the environment, people, plans or demands (Isquith et al., 2015). Executive functioning improvements also included cognitive regulation gains, such as the organization of materials, planning (i.e., managing current and future tasks), working memory and task-monitoring.

Like measures of SEMH and executive functioning, the quality of student-teacher relationships and students' self-concept were assessed two weeks after NG intake and again, during the two weeks preceding discharge. Contrary to mainstream teachers who often described deteriorating relationships with NG candidates over

time, NG teachers reported significant improvements in the overall quality of their connections with their students as the school year progressed. This finding, in conjunction with observational data that they are more attuned and inclined to offer constructive behavioural support, suggests that NG teachers fostered relationships with students that were characterized by warmth, affection, unconditional positive regard and open communication (Pianta, 2001). In turn, NG students reported significant gains in their overall self-concept, including their perceived social acceptance, intellectual status, and school status. Self-concept scales that improved but did not reach a statistical level of significance following nine months of intervention included freedom from anxiety, happiness and satisfaction, and physical appearance.

Taken together, results of this investigation revealed improvements in school functioning among early elementary age students with a history of developmental trauma following participation in the Montreal NG variant program. Consistent with existing literature on the underlying mechanisms and efficacy of NGs, findings suggest that Montreal NGs' attachment-based approach to classroom management offered a restorative setting for children who missed out on early learning opportunities with primary caregivers. More specifically, the ability to re-experience early nurturance within the containment of an educational 'safe base' (Boxall, 2012) provided the foundation for self-worth, the establishment of trusting relationships, and the development of healthy social, emotional, and cognitive, self-regulation capacities. In the absence of alternative school-based specialized programs for the growing number of children in Quebec who experience developmental trauma, implementation and outcome data from this program evaluation may permit educational stakeholders across the province to weigh the benefits of NGs for at-risk students (i.e., the degree of improvement in school functioning) with the overall investment required to run the program.

4.3 Considerations for Educational Stakeholders

In addition to evaluating the cost-benefit ratio of this intervention, the establishment of an effective NG requires careful consideration of several factors related to program implementation that appear to be associated to positive outcomes in this study. Considerations for educational stakeholders seeking to establish a NG are discussed below. This includes resource investment, program affordability relative to other support alternatives, the importance of leadership within NGs, the implications of a point-of-service model and the necessity of adequate training for mainstream teachers upon re-integration.

4.3.1 Resource Investment and Affordability

The resource investment required to operate the Montreal NGs variants resembled a hospital-based child psychiatry program to a greater degree than it did a mainstream classroom. According to the Montreal school board in this study, the total annual cost of operating each NG was \$250,000. This includes (a) all the same materials and resources required by mainstream classrooms (e.g., learning and teaching materials, technological devices, regular classroom furnishings, etc.), (b) teaching, professional and support staff wages, (c) homey décor and furnishings, (d) specialized transportation, and (e) complementary time offered to NG personnel for training, lesson preparation, team meetings, family meetings, collaboration with health and social services and re-integration support.

Although the up-front cost operating a NG is substantial, an evaluation of NG affordability conducted in Northern Ireland found this to be a more cost-effective approach for the education system:

The estimated cost per year of reducing one child who is defined as having behavioural difficulties [...] to within the normal range is £12,912.41. [...] Comparison with the estimated costs of providing other additional educational services to children with behavioural difficulties in Northern Ireland, suggests that effective Nurture Group provision will present direct savings to the education system. In particular, the cost of a pupil with behavioural difficulties being provided with just one of the many additional educational resources during their school careers (from Year 3 to Year 12) will cost the education system at least twice as much as it would by addressing those difficulties through effective Nurture Group provision before the start of Year 3... (Sloane et al., 2020, p. 11)

For the Montreal NGs, the average annual cost per student is approximately \$30,000 CAD. This is roughly \$10,000 CAD more per student than what was reported in Northern Ireland. This discrepancy is likely related to differences between the classic NG and the Montreal NG variant, such as lower staff-to-student ratios, the delivery of specialized clinical services (i.e., weekly therapy, etc.), and specialized transportation to and from the NG point of service. In the absence of a NG, the annual cost of supporting mainstream inclusion is estimated at \$36,215 per student, exceeding the cost of NG placement. This includes the general public education cost per student of \$11,259 (MacPherson, 2021) and the added average cost of \$23,956, for a dedicated teaching assistant to support a student with severe SEMH difficulty in the mainstream classroom (Comité patronal de négociation pour les centres de services scolaires francophones, 2021). Moreover, given that meaningful improvements in school functioning are unlikely without specialized intensive intervention, the cost of supporting NG candidates over the course of their

12 years in the youth education sector (i.e., Kindergarten to Grade 11) far exceeds the cost of NG attendance for one academic year.

4.3.2 NG Leadership

Consistent with the results of NG research from the UK (e.g., Colley & Seymour, 2021; Middleton, 2018), Montreal NG leadership appears to have played a central role in the quality of program implementation and in the strong positive outcomes for student. When classroom staff (i.e., teachers, teaching assistants and special education technicians) were asked to identify factors that facilitated implementation fidelity, active involvement of the NG clinical director emerged as a common denominator. This included efforts to develop staff understanding of the NG approach and its relevance for students with a history of developmental trauma, routine supervision and training, and the clinical director's sensitivity and response to staff's emotional support needs. Collectively, these actions reflect a leadership approach that is consistent with NG values (e.g., non-judgmental approach, consistent and structured approach to skill development, attunement to staff), suggesting that a leader's ability to *practice what you preach* plays a central role in intervention quality. Considering the importance of leadership in NGs, the selection of a qualified leader should be a key consideration for educational stakeholders seeking to establish a NG in their school community. However, it should be noted, that collective agreements with unions can create barriers to hiring qualified candidates over candidates who have accumulated greater seniority but who do not necessarily have the specialized training/orientation necessary to work effectively within NGs. The assistant director of student services and clinical director of the Montreal NGs recommended that educational stakeholders anticipate a considerable time investment for discussions with union leaders to obtain the special considerations necessary to hire *the best person for the job* in the best interest of the children. This also applies to professionals in clinical roles, teachers, and support staff.

4.3.3 Service Model

In the UK, where NGs are more common, students typically attend a NG in the same school building as their mainstream classroom. The point-of-service model adopted by the Montreal NGs has several organizational implications for educational stakeholders. For example, although adequate training for NG classroom staff and ongoing supervision are necessary for all NGs, the consistency and quality of support and supervision are particularly important when aggregating students with the greatest SEMH difficulties (e.g., four hours of challenging behaviours per day, on average per student at intake) from across the school board's territory. Educational stakeholders will also need to coordinate roundtrip

transportation (i.e., school buses) for each participating student; a task that can become quite complex when students are coming from different municipalities across a wide geographic area. For the Montreal NGs, specialized transportation (i.e., mini-bus) was required given the intensity of students' behavioural challenges and the degree of pre- placement interpersonal conflict reported during regular school bus transportation. Finally, before- and after-school daycare services available to students in mainstream classes will need to be made available by the host school for NG students. Dedicated student attendants (i.e., 1:1) should also be considered in the allocated budget as NG students will require support to minimize conflict and scaffold positive interactions with their mainstream peers during unstructured daycare hours.

4.3.4 Training for Mainstream Teachers

Although significant improvements in SEMH functioning was achieved by all NG students following one year of full-time attendance, involvement in some form of off-task or disruptive behaviour (e.g., withdrawal, teasing, arguing, etc.) was still apparent for about one hour per day. This finding underscores the importance of (a) setting realistic expectations with the mainstream teachers, (b) ensuring adequate training for mainstream teachers and support staff on the NG approach prior to re-integration given the significant heterogeneity in teaching practices observed in the implementation phase of this study (i.e., the marked discrepancies among mainstream teachers in their implementation of constructive behaviour support and attunement strategies), (c) continued support from the NG clinical director until stabilization in the mainstream setting, (d) establishing a safe base/secure haven for NG students within their school of origin, and (e) proactive supports for the NG student (e.g., preparing for routine changes, rehearsing upcoming social circumstances that they will likely find challenging, etc.). In addition to training mainstream teachers who will be receiving NG students, a whole-school approach is encouraged by Boxall (2012). The purpose of adopting a whole-school policy is to recognize the importance of working in partnership with others within the school (e.g., lunch monitors, daycare supervisors, specialist teachers) and to develop positive attitudes toward students who are facing school adversity secondary to developmental trauma. For example, the Montreal NG clinical director offered workshops on attachment, nurture, and developmental trauma to schools with former and current NG students, and all staff members were encouraged to attend.

4.4 Limitations and Future Directions

This study is characterized by a few limitations. First, although Montreal NG students' significant improvements in SEMH and school functioning are consistent with the larger NG research base, it would be premature to conclude that findings in this study alone generalize to other educational settings across the province. The external validity and power of results was limited by the small sample size (i.e., N=12) and the fact that this was the first investigation of this particular NG variant model. Research on NGs in different municipalities and a larger sample size would allow for a better evaluation of the merits of NGs for Quebec students. As data collection for both studies took place at the height of the Covid-19 pandemic, the generalization of results may have also been limited to some extent by variables unique to this unprecedented public health crisis. NG staff reported that social distancing requirements limited their ability to meet students' proximity-seeking needs while facial masks made it difficult to quickly identify and meet students' emotional needs (e.g., reading or exchanging facial expressions). Facial masks also muffled voices and made it hard to understand and be understood by students (e.g., degree of distress, empathic tone) who often also have comorbid expressive-receptive language difficulties (Sylvestre et al., 2016). Other external variables, such as parental distress may have led to more adverse effects on NG participants (i.e., worsening of SEMH difficulties). A recent study by Gadermann and colleagues (2021) investigated the effects of the Covid-19 pandemic on Canadian parents of children under 18 years and found: (a) declines in mental health, (b) increased distress related to not being safe from physical, emotional and domestic violence, (c) increased suicidal thoughts/feelings, and (d) increased alcohol consumption. These findings suggest that problematic household dynamics among NG families could have been aggravated over the course of the data collection period (i.e., 2020-2021 academic year). Replication of the Montreal NG program evaluation would allow for a better understanding of the degree to which the pandemic impacted NG students and the results of the present evaluation. It is also important to note that the internal validity of the study was compromised by the small sample size and by the absence of a control group and randomized sampling. Another limitation of this study is the absence of post-intervention measures of children's social-emotional-behavioural functioning. Consequently, it is impossible to determine the extent to which NG student improvements were transferred and remained stable in mainstream settings. As the existing NG data set from the UK is not yet characterized by extensive follow-up information (Bennett, 2015), research on the long-term benefits of NGs is needed. Finally, given limited research on NG implementation outside this thesis (Balisteri, 2016; Kearny & Nowek, 2019), future studies assessing student progress in response to NG placement should include systematic evaluation of the NG's organizational and interventional features. Greater research on NG implementation would reveal how NGs in different regions are being operationalized, provide an indication

of implementation quality (Breitenstein et al, 2010), and lead to improvements in staff training and supervision (Fixsen et al., 2005). Importantly, implementation research would also help identify the key ingredients responsible for positive student outcomes, thereby allowing stakeholders to adjust NG practices to optimize success.

4.5 Thesis Contributions

The Montreal NG program evaluation has made noteworthy contributions to the NG research base. To the best of the authors' knowledge, this was the first investigation of NG student progress to include systematic implementation research. In addition to the benefits of implementation research discussed in the previous section, there is increasing awareness that intervention programs shown to be effective in controlled settings may not benefit target populations in real-life settings unless contextual obstacles (e.g., resource availability, staff retention, etc.) to fidelity are identified and addressed (Fixsen, 2005). Implementation research shines a light on real-world factors often overlooked or not captured by other research disciplines and, as a result, provides a basis for the context-specific and informed decision-making that is crucial to implementation quality (World Health Organization, 2013). As NGs were developed in the UK, the present program evaluation revealed the ways in which these groups were being adapted to meet the educational context and resources within this particular Montreal-based school board. Moreover, the Logic Model developed by the NG team, which includes an operationalized description of the intervention's organizational and interventional features, has several potential benefits, including:

1. Helping staff gain a common understanding of how an intervention works.
2. Helping staff understand their individual roles and responsibilities.
3. Given the lack of specificity in Boxall's theoretical guidelines, the Logic Model allows other researchers and educational stakeholders who are interested in establishing a NG to confidently replicate the intervention. The results obtained can be compared with findings from this study to better understand the generalizability of the intervention's effects across different school districts.
4. It allows for NG implementation to be differentiated from other school-based nurturing approaches.

The inclusion of classroom observations is another meaningful contribution to the NG research base. In fact, the Montreal NGs' program evaluation was one of the first studies to complement indirect measures of student improvement with direct measures (Hughes & Schlösser, 2014). Moreover, given that teacher- and self-report questionnaire ratings aligned with data obtained from the recording of teacher

observations of students' SEMH improvements, the results of this program evaluation strengthen the evidence in support of NGs as an effective intervention for children with a history of developmental trauma whose developmental limitations interfere with school functioning.

CONCLUSION

By school entry, children who have experienced chronic or repeated trauma in the context of their relationship to an attachment figure are more likely to be developmentally disadvantaged relative to their securely attached peers (Milot et al., 2018). Montreal NG students who presented with severe SEMH limitations at program entry demonstrated meaningful improvements in school functioning by the end of a single academic year (i.e., 9 months of intervention). These findings may be pertinent to educational stakeholders in the province of Quebec given the strong increase in the number of reports of maltreatment recorded by the DYP over the last five years (i.e., 2017-2022) and the lack of school-based specialized programs endorsed by the Ministry of Education that aim specifically to support this growing subset of the student population. It is worth noting, however, that the generalizability of results is limited by the study's small sample size as well as by external variables unique to the Covid-19 pandemic (e.g., declines in parental mental health). In addition, more NG program evaluation research in different regions across the province is needed before the benefits of this intervention for Quebec students can be determined. To be able to identify the key ingredients responsible for positive student outcomes and further strengthen the evidence in support of the NG research base, future NG investigations of student progress should also systematically include implementation research.

ANNEX A
ARTICLE PUBLICATION CONFIRMATION LETTER

**THE INTERNATIONAL
JOURNAL OF NURTURE
IN EDUCATION**



Patty Cloran cloran.patty@courrier.ugam.ca

12th July 2022

Dear Patty

I am writing to confirm that the two articles listed below were accepted for publication in the 8th Volume (summer 2022) of the International Journal of Nurture in Education following peer review.

'Classroom as a Secure Base and Safe Haven: Nurture Group Implementation in Two Montreal Schools'

Authors: Patty Cloran, Mélina Rivard & Andrew Bennett

Submitted: 1st December 2021 Accepted: 4th February 2022

'Reaching and Teaching Students: Using Nurture Groups to Improve School Functioning Among Montreal Children with Developmental Trauma'

Authors: Patty Cloran, Mélina Rivard & Andrew Bennett

Submitted: 8th December 2021 Accepted: 11th February 2022

Thank you for your contribution to the journal and I wish you every success in your nurturing work going forward.

Kind Regards

Tristan Middleton

Editor: International Journal of Nurture in Education

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Tel: 01242 714725

APPENDIX A

UQÀM CERTIFICATE OF ETHICS APPROVAL



No. de certificat: 4203

Certificat émis le: 30-07-2020

CERTIFICAT D'APPROBATION ÉTHIQUE

Le Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE FSH) a examiné le projet de recherche suivant et le juge conforme aux pratiques habituelles ainsi qu'aux normes établies par la *Politique No 54 sur l'éthique de la recherche avec des êtres humains* (Janvier 2016) de l'UQAM.

Titre du projet:	Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group
Nom de l'étudiant:	Patty CLORAN
Programme d'études:	Doctorat en psychologie
Direction de recherche:	Mélina RIVARD

Modalités d'application

Toute modification au protocole de recherche en cours de même que tout événement ou renseignement pouvant affecter l'intégrité de la recherche doivent être communiqués rapidement au comité.

La suspension ou la cessation du protocole, temporaire ou définitive, doit être communiquée au comité dans les meilleurs délais.

Le présent certificat est valide pour une durée d'un an à partir de la date d'émission. Au terme de ce délai, un rapport d'avancement de projet doit être soumis au comité, en guise de rapport final si le projet est réalisé en moins d'un an, et en guise de rapport annuel pour le projet se poursuivant sur plus d'une année. Dans ce dernier cas, le rapport annuel permettra au comité de se prononcer sur le renouvellement du certificat d'approbation éthique.

A handwritten signature in black ink, appearing to read "Anne-Marie Parisot", with a vertical line at the end.

Anne-Marie Parisot

Professeure, Département de linguistique

Présidente du CERPÉ FSH

APPENDIX B

THE TRI-COUNCIL POLICY STATEMENT 2: CERTIFICATE OF COMPLETION

PANEL ON
RESEARCH ETHICS

Navigating the ethics of human research

TCPS 2: CORE



Certificate of Completion

This document certifies that

Patty Cloran

*has completed the Tri-Council Policy Statement:
Ethical Conduct for Research Involving Humans
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue: **19 October, 2018**

APPENDIX C

LESTER B. PEARSON SCHOOL BOARD RESEARCH PROJECT APPROVAL LETTER



Date: August 27th, 2020

Address: 1761 Alexis-Nihon
Saint-Laurent, Qc H4R 3A2

Dear Ms. Patty Cloran,

At a recent Administration meeting of the Lester B. Pearson School Board, your research project request entitled "Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group" was carefully reviewed.

I am pleased to inform you that your project has been accepted, and would appreciate it if you could communicate with me when the following details concerning your research become available.

- Names and location(s) where research is to be conducted.
- Confirmation of permission granted by the Principal to conduct the research (see attached form for details).

****Please note: The Principal and the Governing Board must approve the project and the school's participation in order for you to proceed. The Principal reserves the right to decline the school's participation.**

*****Please also note: An annual status report must be submitted to the Director of Educational Services for any ongoing projects lasting more than one year. Upon completion of the project, a one or two page executive summary must be submitted to the Department of Educational Services, the administrator(s) of the school(s) where the research was conducted, as well as the school's Governing Board Chairperson. Failure to do so may inhibit future projects from the primary researcher as well as the associated University from being considered for approval.**

Sincerely,



Mathieu Canavan
Director
Educational Services

APPENDIX D

RESEARCH PROJECT INFORMATION FLYER FOR MAINSTREAM EDUCATION TEACHERS



WHAT? A study conducted by a doctoral student from Université du Québec à Montréal (UQÀM) in collaboration with Lester B. Pearson School Board. This research project aims to compare teaching practices in the Reach Program with the teaching practices in general education classrooms and to determine the program's efficacy at reducing the social, emotional and behavioural difficulties experienced by students.

WHO? Teachers of students who are being referred to the Reach Program.

WHERE? Within your school setting.

HOW? Two observations of one-hour each of teaching practices in your classroom by a research assistant and the completion of three questionnaires about the student who is being referred to the Reach Program. Below is a summary of the instruments.

WHEN? Prior to the student's admission to the Reach Program.

Questionnaire	Duration	Type
Student-Teacher Relationship Scale	5 minutes	Measures a teacher's perception of closeness, conflict and dependency with a student
Teacher Report Form	20 minutes	Measures social, emotional and behavioural difficulties experienced by a student
Direct Measurement of Behaviour	One full school day	A form in which the teacher can record the instances of challenging behaviours

IF YOU ARE INTERESTED IN PARTICIPATING OR IF YOU HAVE QUESTIONS RELATED TO THIS STUDY, PLEASE CONTACT THE PRIMARY RESEARCHER, PATTY CLORAN, AT REACHPROJECT@GMAIL.COM

APPENDIX E

RESEARCH PROJECT INFORMATION FLYER FOR NURTURE GROUP TEACHERS



WHAT? A study conducted by a doctoral student from Université du Québec à Montréal (UQÀM) in collaboration with Lester B. Pearson School Board. This research project aims to compare teaching practices in the Reach Program with the teaching practices in general education classrooms and to determine the program's efficacy at reducing the social, emotional and behavioural difficulties experienced by students.

WHO? Teachers of the Reach Program at the Lester B. Pearson School Board.

WHERE? Within your school setting (i.e., Lasalle Junior or Christmas Park Elementary)

HOW? Two observations of one-hour each of teaching practices in your classroom conducted by a research assistant as well as the completion of questionnaires. With the exception of the ACEs questionnaire* which will only need to be completed one time, the following forms would need to be completed twice for each student whose legal guardian consents to participation:

Questionnaire	Duration	About
Student-Teacher Relationship Scale	5 minutes	Teacher's perception of closeness, conflict and dependency with a student
Teacher Report Form	20 minutes	Measures a student's social, emotional and behavioural difficulties
Direct Measurement of Behaviour	1 day	Tracking of instances of challenging behaviours
BRIEF 2	15 minutes	Assessment of executive functioning skills (e.g., impulse control)
ACEs* (teacher version)	5 minutes	Measures child welfare from the perspective of the teacher

WHEN? Classroom observations will take place at your convenience. For students whose legal guardian(s) consent to participation, the questionnaires are to be completed two-weeks following program entry and upon program graduation.

IF YOU ARE INTERESTED IN PARTICIPATING OR IF YOU HAVE QUESTIONS RELATED TO THIS STUDY, PLEASE CONTACT THE PRIMARY RESEARCHER, PATTY CLORAN, AT REACHPROJECT@GMAIL.COM

APPENDIX F

**RESEARCH PROJECT INFORMATION FLYER FOR LEGAL GUARDIANS OF
NURTURE GROUP STUDENTS**



WHAT? A study conducted by a doctoral student from Université du Québec à Montréal (UQÀM) in collaboration with Lester B. Pearson School Board. This research project aims to compare teaching practices in the Reach Program with the teaching practices in general education classrooms and to determine the program’s efficacy at reducing the social, emotional and behavioural difficulties experienced by students.

WHO? Students to be admitted to the Reach Program.

HOW? The completion of questionnaires and classroom observations.

WHERE? In your child’s school setting (i.e., Lasalle Junior or Christmas Park Elementary).

WHEN? Questionnaires and observations will be completed prior to admission (via the referring school), two-weeks following admission to the Reach program and upon program graduation. Below is a summary of questionnaires and associated timelines.

Questionnaire/Form	About the Instrument	Duration	Before Reach	Start of Reach	End of Reach
Developmental History Checklist	Developmental and sociodemographic questions	15 min	Parent/Guardian		
Child-Parent Relationship Scale	Parent perception of relationship w/ child	5 min	Parent/Guardian		
Student-Teacher Relationship Scale	Teacher perception of relationship w/ child	5 min	Referring Teacher	Reach Teacher	Reach Teacher
BRIEF 2	Assessment of executive functioning skills (e.g., impulse control)	15 min		Reach Teacher	Reach Teacher
Piers Harris 3 Scale of Self-Concept	Measures self-concept in children (e.g., self-esteem)	15 min		Student	Student
Teacher Report Form	Measures a student’s social, emotional and behavioural difficulties (teacher perspective)	20 min	Referring Teacher	Reach Teacher	Reach Teacher
Child Behaviour Checklist	Measures a student’s social, emotional and behavioural difficulties (parent perspective)	20 min		Parent/Guardian	Parent/Guardian
Direct Measurement of Behaviour	Tracking instances of challenging behaviours	1 day	Referring Teacher	Reach Teacher	Reach Teacher
Adverse Childhood Experiences Questionnaire	Measures child welfare from the perspective of the teacher	5 min			Reach Teacher

IF YOU ARE INTERESTED IN PARTICIPATING OR IF YOU HAVE QUESTIONS RELATED TO THIS STUDY, PLEASE CONTACT THE PRIMARY RESEARCHER, PATTY CLORAN, AT
“reachprojectlbsb@gmail.com”

APPENDIX G

RESEARCH PROJECT CONSENT FORM FOR MAINSTREAM EDUCATION TEACHERS



PROJECT INFORMATION & REFERRING TEACHER CONSENT FORM

Research Project Title: Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group

If you were contacted to participate in this study, it is because you are a teacher at the Lester B. Pearson School Board who is referring a student to the REACH Program. Please take the time to read carefully through the following document prior to making any decisions with regard to your participation. This consent form explains the purpose of this study, the nature and duration of participation, the benefits and risks, as well as who to contact for questions or concerns. We thank you for your interest in our research project.

IDENTIFICATION

This research project is being conducted by doctoral student, Patty Elizabeth Cloran, under the supervision of Dr. Mélina Rivard from Université du Québec à Montréal (UQAM). Collaboration with the Lester B. Pearson School Board is being facilitated by Dr. Andrew Bennett, REACH Program Director.

Researcher & Doctoral Student Patty Elizabeth Cloran, M.Sc., BCBA Department of Psychology Université du Québec à Montréal cloran.patty@courrier.uqam.ca (514) 793-1935	Research Supervisor Mélina Rivard (Ph.D./Psy.D.) Department of Psychology Université du Québec à Montréal rivard.melina@uqam.ca 514-987-3000 ext. 5235	Lester B. Pearson Liaison Andrew Bennett, Ph.D. REACH Program Clinical Director & Clinical Psychologist abennett@lbpsb.qc.ca 514-422-3000, ext. 32446
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RESEARCH DESCRIPTION & OBJECTIVES

The researcher is collaborating with the Lester B. Pearson School Board to evaluate the REACH Program. Specifically, this project aims to:

1. Compare teaching practices in the REACH Program with teaching practices in general education classrooms
2. Evaluate the efficacy of the REACH Program at reducing social, emotional and behavioural difficulties experienced by students
3. Evaluate the efficacy of the REACH Program at fostering the development of student-teacher relationships, self-esteem and executive functioning skills

Taken together, your involvement in this study will help the research team identify the teaching practices and supports that promote student adaptation, school functioning and well-being.

NATURE & DURATION OF PARTICIPATION

Your participation in this study involves two observations of one-hour each by a member of the research team. The purpose of these observations is to gain a better understanding of the teaching practices in general education classrooms. Your participation also involves the completion of three questionnaires about the student you are referring to REACH. The forms/questionnaires will be completed at school and, at your request, a member of the research team can assist you. The purpose of the questionnaires is to collect baseline information on the student such that the research team can monitor his/her progress.

On the next page is a table summarizing each questionnaire and the duration for completion.

NATURE & DURATION OF PARTICIPATION (CONTINUED)

FORMS/QUESTIONNAIRE	ABOUT THE INSTRUMENTS	DURATION
Student-Teacher Relationship Scale	Measures a teacher's perception of closeness, conflict and dependency with a student	5 minutes
Teacher Report Form (TRF)	The TRF measures social, emotional and behaviour difficulties experienced by students. In essence, these forms are the same.	20 minutes
Direct Measurement of Student Behaviour Form	A form in which the teacher can record the occurrence of challenging behaviours throughout the school day	1 day

ADVANTAGES & RISKS

As previously stated, your participation will contribute to the advancement of knowledge about the teaching practices that best support the learning and well-being of students who experience social, emotional and behavioral difficulties. This will also allow the REACH team to continue to improve the quality of services offered to its students.

There is no significant risk or inconvenience associated with your participation. During the observations, the observer will sit/stand discretely and quietly in the location of your choosing. In addition, you are free to terminate an observation and/or skip or refuse to answer any question(s) on the questionnaires, without consequence or justification.

CONFIDENTIALITY

Confidentiality and anonymity: All information collected from the observations and questionnaires will remain strictly confidential and anonymous. This means that your data (including the data you share about the student) will never be revealed in any form and to any third party. In addition, a numerical code will be assigned to each participant's data set. The researcher, research supervisor and research assistants are the only individuals with access to your information. Exceptionally, the research team may communicate information protected by confidentiality when they have reasonable grounds to believe that a person or identifiable group of people are at imminent risk of danger (e.g., act of violence).

Data Retention: Paper documentation collected during the research project will be kept under lock and key in the researcher's laboratory. Computer-based documents will be encrypted and password protected. All forms of data will be destroyed five years following completion of the research project, in compliance with the UQAM's data retention and disposal policies.

Dissemination of results: The results of this research project will be published in the context of a doctoral thesis and scientific articles which will be submitted to scholarly journals. The thesis will also be available on Archipel: <https://archipel.uqam.ca/>. Importantly, the dissemination of results will always be presented as group averages (i.e., individual results will not be shared). If you wish to be informed of the results of this study, please indicate this on page 3.

VOLUNTARY PARTICIPATION

Your participation in this project is entirely voluntary. This means that you can withdraw your consent at any point, without consequence. Your student's placement in the REACH program and the quality of services provided to him/her will not be impacted in any way by your decision not to participate or to stop participation. Furthermore, from the moment your consent is withdrawn, all data that will have been collected through your participation will be destroyed.

Given the limited number of student referrals to the REACH program that are made each year by general education teachers, the researcher is mindful of the pressure you might feel to participate in order to allow this study to take place. Please note that, while the researcher would greatly value your insight, the feasibility of this project is not dependent on your participation. In other words, the study can be pursued regardless of whether or not you decide to participate. In the event that a teacher opts out of the project, the researcher will rely on data collected from students and their legal tutors to evaluate student progress and the program's overall efficacy.

QUESTIONS ABOUT THE PROJECTS OR ABOUT YOUR RIGHTS?

If you have any questions about the project, you can contact the researcher, Patty Cloran or research supervisor, Dr. Mélina Rivard from the Université du Québec à Montréal (UQÀM). Concerns or complaints can be addressed with the researcher or her supervisor (see contact information on page 1). If the complaint cannot be resolved directly with the research team, you can assert your concerns or complaints with the coordinator of the *Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains* (CERPE) of the Faculty of Social Sciences at UQÀM: Julie Sergent, (514) 987-3000 #3642, sergent.julie@uqam.ca.

Your collaboration is important to the completion of the project and the research team would like to thank you again for your interest in our study.

PROJECT INFORMATION & REFERRING TEACHER CONSENT FORM

Research Project Title: Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group

REFERRING TEACHER'S SIGNATURE

I, the undersigned, _____, acknowledge having read and understood this consent form. I give my voluntary and informed consent to participate in this research project. I confirm that the research team responded adequately to my questions and that I have had enough time to reflect on my decision. I understand that I reserve the right to withdraw from this research project at any time, without penalty or justification. Should I wish to withdraw my consent, I understand that I simply need to inform a member of the research team.

Referring Teacher Signature: _____ Date: _____

Student Name: _____ Date of Birth: _____ School & Grade: _____

I wish to be informed of the results of this study: YES, e-mail address: _____ NO

Please retain page 1 to 3 of this consent form and return page 4 to a member of the research team.

RESEARCHER'S SIGNATURE

I, the undersigned, _____, declare that I have explained the purpose of this study, the nature and duration of the participation, the benefits and the risks as well as who to contact for questions or concerns. I have answered the participant's questions to the best of my knowledge.

Researcher's Signature: _____ Date: _____

APPENDIX H

RESEARCH PROJECT CONSENT FORM FOR NURTURE GROUP TEACHERS



PROJECT INFORMATION & REACH STAFF CONSENT FORM

Research Project Title: Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group

If you were contacted to participate in this study, it is because you are a REACH team member at the Lester B. Pearson School Board. Please take the time to read carefully through the following document prior to making any decisions with regard to your participation. This consent form explains the purpose of this study, the nature and duration of participation, the benefits and risks, as well as who to contact for questions or concerns. We thank you for your interest in our research project.

IDENTIFICATION

This research project is being conducted by doctoral student, Patty Elizabeth Cloran, under the supervision of Dr. Mélina Rivard from Université du Québec à Montréal (UQAM). Collaboration with the Lester B. Pearson School Board is being facilitated by Dr. Andrew Bennett, REACH Program Director.

Researcher & Doctoral Student Patty Elizabeth Cloran, M.Sc., BCBA Department of Psychology Université du Québec à Montréal cloran.patty@courrier.uqam.ca (514) 793-1935	Research Supervisor Mélina Rivard (Ph.D./Psy.D.) Department of Psychology Université du Québec à Montréal rivard.melina@uqam.ca 514-987-3000 ext. 5235	Lester B. Pearson Liaison Andrew Bennett, Ph.D. REACH Program Clinical Director & Clinical Psychologist abennett@lbpsb.qc.ca 514-422-3000, ext. 32446
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RESEARCH DESCRIPTION & OBJECTIVES

The researcher is collaborating with the Lester B. Pearson School Board to evaluate the REACH Program. Specifically, this project aims to:

1. Compare teaching practices in the REACH Program with teaching practices in general education classrooms
2. Evaluate the efficacy of the REACH Program at reducing social, emotional and behavioural difficulties experienced by students
3. Evaluate the efficacy of the REACH Program at fostering the development of student-teacher relationships, self-esteem and executive functioning skills

Taken together, your involvement in this study will help the research team identify the teaching practices and supports that promote student adaptation, school functioning and well-being.

NATURE & DURATION OF PARTICIPATION

Your participation in this study involves the completion of one 30-minute questionnaire about your perspectives on the program.

ADVANTAGES & RISKS

Your participation will contribute to the advancement of knowledge about the teaching practices that best support the learning and well-being of students who experience social, emotional and behavioral difficulties. This will also allow the REACH team to continue to improve the quality of services offered to its students.

There is no significant risk associated with your participation.

CONFIDENTIALITY

Confidentiality and anonymity: All information collected from the observations and questionnaires will remain strictly confidential and anonymous. This means that your data (including the data you share about the student) will never be revealed in any form and to any third party. In addition, a numerical code will be assigned to each participant's data set. The researcher, research supervisor and research assistants are the only individuals with access to your information. Exceptionally, the research team may communicate information protected by confidentiality when they have reasonable grounds to believe that a person or identifiable group of people are at imminent risk of danger (e.g., act of violence).

Data Retention: Paper documentation collected during the research project will be kept under lock and key in the researcher's laboratory. Computer-based documents will be encrypted, and password protected. All forms of data will be destroyed five years following completion of the research project, in compliance with the UQÀM's data retention and disposal policies.

Dissemination of results: The results of this research project will be published in the context of a doctoral thesis and scientific articles which will be submitted to scholarly journals. The thesis will also be available on Archipel: <https://archipel.uqam.ca/>. At the request of the REACH program director, overall findings will be shared in the form of a PowerPoint Presentation and summary report. Importantly, the dissemination of results will always be presented as group averages (i.e., individual results will not be shared). If you wish to be informed of the results of this study, please indicate this on page 3.

VOLUNTARY PARTICIPATION

Your participation in this project is entirely voluntary. This means that you can withdraw your consent at any point, without consequence. From the moment your consent is withdrawn, all data that will have been collected through your participation will be destroyed.

QUESTIONS ABOUT THE PROJECTS OR ABOUT YOUR RIGHTS?

If you have any questions about the project, you can contact the researcher, Patty Cloran or research supervisor, Dr. Mélina Rivard from the Université du Québec à Montréal (UQÀM). Concerns or complaints can be addressed with the researcher or her supervisor (see contact information on page 1). If the complaint cannot be resolved directly with the research team, you can assert your concerns or complaints with the coordinator of the *Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains* (CERPE) of the Faculty of Social Sciences at UQÀM: Julie Sergent, (514) 987-3000 #3642, sergent.julie@uqam.ca.

Your collaboration is important to the completion of the project and the research team would like to thank you again for your interest in our study.

PROJECT INFORMATION & REACH TEACHER CONSENT FORM

Research Project Title: Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group

REACH STAFF SIGNATURE

I, the undersigned, _____, acknowledge having read and understood this consent form. I give my voluntary and informed consent for my child, to participate in this research project. I confirm that the research team responded adequately to my questions and that I have had enough time to reflect on my decision. I understand that I reserve the right to withdraw from this research project at any time, without penalty or justification. Should I wish to withdraw my consent, I understand that I simply need to inform a member of the research team.

REACH Staff Signature: _____ Date: _____

I wish to be informed of the results of this study: YES, e-mail address: _____ NO

Please retain page 1 to 3 of this consent form and return page 4 to a member of the research team.

RESEARCHER'S SIGNATURE

I, the undersigned, _____, declare that I have explained the purpose of this study, the nature and duration of the participation, the benefits and the risks as well as who to contact for questions or concerns. I have answered the participant's questions to the best of my knowledge.

Researcher's Signature: _____ Date: _____

APPENDIX I

RESEARCH PROJECT CONSENT FORM FOR NURTURE GROUP STUDENTS



PROJECT INFORMATION & CONSENT FORM FOR STUDENT PARTICIPATION

Research Project Title: Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group

If you were contacted to participate in this study, it is because you are the parent or legal guardian of a student who will soon be attending the REACH Program. Please take the time to read carefully through the following document prior to making any decisions with regard to your child's participation. This consent form explains the purpose of this study, the nature and duration of participation, the benefits and risks, as well as who to contact for questions or concerns. We thank you for your interest in our research project.

IDENTIFICATION

This research project is being conducted by doctoral student, Patty Elizabeth Cloran, under the supervision of Dr. Méлина Rivard from Université du Québec à Montréal (UQAM). Collaboration with the Lester B. Pearson School Board is being facilitated by Dr. Andrew Bennett, REACH Program Director.

Researcher & Doctoral Student Patty Elizabeth Cloran, M.Sc., BCBA Department of Psychology Université du Québec à Montréal cloran.patty@courrier.uqam.ca (514) 793-1935	Research Supervisor Méлина Rivard (Ph.D./Psy.D.) Department of Psychology Université du Québec à Montréal rivard.melina@uqam.ca 514-987-3000 ext. 5235	Lester B. Pearson Liaison Andrew Bennett, Ph.D. REACH Program Clinical Director & Clinical Psychologist abennett@lbpsb.qc.ca 514-422-3000, ext. 32446
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RESEARCH DESCRIPTION & OBJECTIVES

The researcher is collaborating with the Lester B. Pearson School Board to evaluate the REACH Program. Specifically, this project aims to:

1. Compare teaching practices in the REACH Program with teaching practices in general education classrooms
2. Evaluate the efficacy of the REACH Program at reducing social, emotional and behavioural difficulties experienced by students
3. Evaluate the efficacy of the REACH Program at fostering the development of student-teacher relationships, self-esteem and executive functioning skills

Taken together, your child's involvement in this study will help the research team identify the teaching practices and supports that promote student adaptation, school functioning and well-being.

NATURE & DURATION OF PARTICIPATION

Your child's participation in this study involves the completion of questionnaires about your child by the following individuals: (a) the teacher who is referring your child to the REACH Program (b) the REACH class teacher (c) the child's parent(s)/legal guardian(s) and (d) one questionnaire that your child will complete with the help of a member of the research team. On the next page is a table summarizing the data collection procedure and a brief description of each questionnaire.

Forms and questionnaires intended for students and teachers will be completed at your child's school. Forms and questionnaires intended for parents and legal guardians can be completed at school, at your home or in another location of your choosing. At your request, a member of the research team can assist you in completing the forms/questionnaires.

NATURE & DURATION OF PARTICIPATION (CONTINUED)

FORMS/QUESTIONNAIRE	ABOUT THE INSTRUMENTS	DURATION	BEFORE REACH	START OF REACH	END OF REACH
Developmental History Checklist	Developmental and sociodemographic questions	15 minutes	Parent/Legal Guardian		
Adverse Childhood Experiences Questionnaire	Measurement of a child's welfare from the teacher's perspective	5 minutes			REACH Teacher
Child-Parent Relationship Scale	Parent/legal guardian's perception of their relationship with their child	5 minutes	Parent/Legal Guardian		
Student-Teacher Relationship Scale	Measures a teacher's perception of closeness, conflict and dependency with a student	5 minutes	Referring Teacher	REACH Teacher	REACH Teacher
Behaviour Rating Inventory of Executive Function 2	Assessment of executive functioning skills (e.g., impulse control)	15 minutes		REACH Teacher	REACH Teacher
Piers-Harris Self-Concept Scale 3	Measures self-concept in children (i.e., ideas the child has about themselves)	15 minutes		Student	Student
Teacher Report Form (TRF)	The TRF & CBCL both measure social, emotional and behaviour difficulties experienced by students. In essence, these forms are the same. The TRF is the teacher version and the CBCL is the parent version.	20 minutes	Referring Teacher	REACH Teacher	REACH Teacher
Child Behaviour Checklist (CBCL)		20 minutes		Legal Guardian	Legal Guardian
Direct Measurement of Student Behaviour Form	A form in which the teacher can record the occurrence of challenging behaviours throughout the school day	1 day	Referring Teacher	REACH Teacher	REACH Teacher

Importantly, please note that all forms/questionnaires that are to be completed by your child or about your child will be reviewed with you prior to obtaining your signed consent.

ADVANTAGES & RISKS

As previously stated, your child's participation will contribute to the advancement of knowledge about the teaching practices that best support the learning and well-being of students who experience social, emotional and behavioral difficulties. This will also allow the REACH team to continue to improve the quality of services offered to its students.

There is no significant risk or inconvenience associated with your child's participation. However, some of the topics in the form that your child will complete (i.e., Piers Harris Self-Concept Scale 3) are sensitive in nature (e.g., questions relating to self-esteem) and can be associated with feelings of discomfort. When it is time for your child to complete the questionnaire, the researcher will invite your child to a private room within the school. Your child will be offered the opportunity to bring a school staff member along if that is their preference (e.g., REACH's integration aide or behavior technician). It will be made explicitly clear to your child prior to starting the questionnaire that he/she is free to skip or refuse to answer any question(s) or to stop the activity altogether, without consequence or justification. The researcher will remain present at all times to help your child read the questions and to provide any other form of support, as needed. Your child will return to class when he/she is done completing the questionnaire or as soon as he/she indicates that they no longer want to participate. This activity should not exceed 15 minutes.

Furthermore, some of the questionnaires that you will complete about your child (e.g., Child Behaviour Checklist) also contain questions that are sensitive in nature (e.g., difficulties experience by your child) and that can be associated with feelings of discomfort. As with your child, you are free to skip or refuse to answer any question(s) or to stop the activity altogether, without consequence or justification. At your request, the researcher will make herself available to assist/support you in the location of your choosing. The researcher is a doctoral-level student in psychology with clinical experience (i.e., two completed internships) working with families.

Should you or your child require psychological support that cannot be offered by the members of the research team, you can reach out for support from the Lester B. Pearson School Board's team of psychologists. The following coordinates is the address of the head office where the psychologists' offices are located: Lester B. Pearson School Board, 1925 Brookdale Avenue, Dorval, Quebec, H9P 2YZ, **514-422-3000**. Another resource that is available to you at no charge is LigneParents which offers professional and confidential services 24/7 by a worker from a family community organization: **1-800-361-5085**.

CONFIDENTIALITY

Confidentiality and anonymity: All information shared by your child or about your child will remain strictly confidential and anonymous. This means that your child's personal information (e.g., answers to questionnaires) will never be revealed in any form and to any third party. In addition, a numerical code will be assigned to each participant's data set. The researcher, research supervisor and research assistants are the only individuals with access to your child's information. As with the REACH staff members, the research team may communicate information protected by confidentiality when they have reasonable grounds to believe that a person or identifiable group of people are at imminent risk of danger (e.g., act of violence).

Data Retention: Paper documentation collected during the research project will be kept under lock and key in the researcher's laboratory. Computer-based documents will be encrypted, and password protected. All forms of data will be destroyed five years following completion of the research project, in compliance with the UQÀM's data retention and disposal policies.

Dissemination of results: The results of this research project will be published in the context of a doctoral thesis and scientific articles which will be submitted to scholarly journals. The thesis will also be available on Archipel: <https://archipel.uqam.ca/>. At the request of the REACH team, overall findings will be shared in the form of a PowerPoint Presentation and summary report. Importantly, the dissemination of results will always be presented as group averages (i.e., individual results will not be shared). If you wish to be informed of the results of this study, please indicate this on page 4.

VOLUNTARY PARTICIPATION

Your participation in this project is entirely voluntary. This means that you can withdraw your consent at any point, without consequence. Your child's placement in the REACH program and the quality of services provided to him/her will not be impacted in any way by your decision to not participate or to stop participation. Furthermore, from the moment your consent is withdrawn, all data that will have been collected on your child will be destroyed.

*Please also note that there is no monetary compensation for participation in this project.

QUESTIONS ABOUT THE PROJECTS OR ABOUT YOUR RIGHTS?

If you have any questions about the project, you can contact the researcher, Patty Cloran or research supervisor, Dr. Mélina Rivard from the Université du Québec à Montréal (UQÀM). Concerns or complaints can be addressed with the researcher or her supervisor (see contact information on page 1). If the complaint cannot be resolved directly with the research team, you can assert your concerns or complaints with the coordinator of the *Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains* (CERPE) of the Faculty of Social Sciences at UQÀM: Julie Sergent, (514) 987-3000 #3642, sergent.julie@uqam.ca.

Your collaboration is important to the completion of the project and the research team would like to thank you again for your interest in our study.

PROJECT INFORMATION & CONSENT FORM FOR STUDENT PARTICIPATION

Research Project Title: Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group

PARENT/LEGAL GUARDIAN SIGNATURE: STUDENT PARTICIPATION

I, the undersigned, _____, acknowledge having read and understood this consent form. I give my voluntary and informed consent for my child to participate in this research project. I confirm that the research team responded adequately to my questions and that I have had enough time to reflect on my decision. I understand that I reserve the right to withdraw from this research project at any time, without penalty or justification. Should I wish to withdraw my consent, I understand that I simply need to inform a member of the research or REACH team.

Child Name: _____ Date of Birth: _____ REACH Class: _____

Parent/Legal Guardian Signature: _____ Date: _____

I wish to be informed of the results of this study: YES, e-mail address: _____ NO

RESEARCHER'S SIGNATURE

I, the undersigned, _____, declare that I have explained the purpose of this study, the nature and duration of the participation, the benefits and the risks as well as who to contact for questions or concerns. I have answered the participant's questions to the best of my knowledge.

Researcher's Signature: _____ Date: _____

Please retain page 1 to 3 of this consent form and return page 4 to a member of the research team.

APPENDIX J

ORGANIZATIONAL FIDELITY SITE VISIT CHECKLIST



UQÀM

Département de psychologie

FACULTÉ DES SCIENCES HUMAINES
Université du Québec à Montréal

SITE VISITS FOR ORGANIZATIONAL FIDELITY

Name: _____ Date: _____ Location: _____

Instructions: Please indicate the organizational fidelity elements that were made available to REACH students and classroom staff.

Staff Presence:

- 1 Teacher
- 1 Behaviour Technician
- 1 Integration Aide
- 1 Psychologist
- 1 Vice Principal
- 1 Principal

Materials:

- Availability of Required Curriculum and Physical Learning Materials
- Food Availability to Students
- Chrome Books/iPads Available to Students
- Computers Available to Students
- Access to online educational software

Physical Space:

- Specialized Classroom Setting Available
- Community/Domestic Area Available
- Relaxation Space Available

Notes:

APPENDIX K

FORM FOR THE OBSERVATION OF ATTUNEMENT PRINCIPLES AND CONSTRUCTIVE BEHAVIOUR SUPPORT



UQÀM

Département de psychologie

FACULTÉ DES SCIENCES HUMAINES
Université du Québec à Montréal

OBSERVATION OF ATTUNEMENT PRINCIPLES AND CONSTRUCTIVE BEHAVIOUR SUPPORT

Program: Reach / General Ed.	Grade:	Observer's Name:
Start Time:	End Time:	Teacher's Name:

DEFINITIONS

Being attentive: looking interested with friendly posture; giving time and space for other; wondering about what they are doing, thinking or feeling; enjoying watching them

Encouraging Initiatives: waiting; listening actively; showing emotional warmth through intonation; naming positively what you see, think or feel; using friendly and/or playful intonation as appropriate; saying what you are doing; looking for initiatives

Receiving Initiatives: showing you have heard, noticed their initiative; receiving with body language; being friendly and/or playful as appropriate; returning eye contact, smiling, nodding in response; receiving what they are saying or doing with words; repeating/using their words and phrases

Developing Attuned Interactions: receiving and then responding; checking they are understanding you; waiting attentively for your turn; having fun; giving a second (and further) turn on same topic; giving and taking short turns; contributing to interaction/activity equally; cooperating – helping each other

Guiding: scaffolding; extending, building on their response; judging the amount of support required and adjusting; giving information when needed; providing help when needed; offering choices that they can understand; making suggestions that they can follow

Deepening Discussion: supporting goal-setting; sharing viewpoints; collaborative discussion and problem-solving; naming difference of opinion; investigating the intentions behind words; naming contradictions/conflicts (real or potential); reaching new shared understandings; managing conflict (back to being attentive and receiving initiatives aimed at restoring attuned interactions)

Constructive Behaviour Support: Feedback to students that clearly delineates/describes the rules, routines, & rituals of the classroom; Feedback to the child that offers a simple explanation for the rules/routines/rituals; concrete and discreet behavioural feedback; Feedback that provides children with clear direction about what they are expected to do rather than the inappropriate behavior they are currently demonstrating (e.g., I need you to stop talking to Timmy and start your worksheet); use of a "holding environment" and restorative language management.



INSTRUCTIONS: By referring to the definitions on the first page, indicate the frequency of occurrence for each intervention element in a one-hour observation period.

Note: No single intervention element should be recorded more than once in any 60-second period.

INTERVENTION ELEMENT	FREQUENCY	TOTAL
Being Attentive		
Encouraging Initiatives		
Receiving Initiatives		
Developing Attuned Interactions		
Guiding		
Deepening Discussion		
Constructive Behaviour Support		

APPENDIX L

ADAPTED ADVERSE CHILDHOOD EXPERIENCES QUESTIONNAIRE FOR SCHOOL PERSONNEL

ADVERSE CHILDHOOD EXPERIENCE (ACE) QUESTIONNAIRE FOR ELEMENTARY SCHOOL PERSONNEL

Note: The following questionnaire is an adaptation by Blodgett & Lanigan (2018) of the original ACE questionnaire by Felitti et al. (1998). Questions followed by an asterisk's symbol are substitute questions. Permission was obtained by Blodgett & Lanigan (1998) from one of the original authors for the rewording of these questions.

Student Name: _____

Date: _____

1. Has this child ever been homeless or highly mobile? *
YES ___ NO ___
2. Has this child ever had a DYP referral or government placement? *
YES ___ NO ___
3. Has this child ever had unmet basic needs that interfere with school adjustment? That is, in the area of nutrition, clothing, or hygiene? *
YES ___ NO ___
4. Have this child's parents been divorced or separated?
YES ___ NO ___
5. Has this child experienced the death of a primary caregiver?
YES ___ NO ___
6. Has any member of this child's family ever been incarcerated?
YES ___ NO ___
7. Does this child have a caregiver with a mental health problem?
YES ___ NO ___
8. Does this child have a caregiver with a substance abuse problem?
YES ___ NO ___
9. Has this child ever witnessed or been the victim of domestic violence?
YES ___ NO ___
10. Has this child ever witnessed or been the victim of community violence? (e.g., family gang involvement, child or family victim of neighborhood violence, or child witnessing neighborhood violence.) *
YES ___ NO ___

TOTAL SCORE: _____

APPENDIX M

NURTURE GROUP QUESTIONNAIRE FOR FOR FRONTLINE PERSONNEL



NURTURE GROUP PERSONNEL QUESTIONNAIRE

Name: _____

Role: _____

FACTORS INFLUENCING PROGRAM IMPLEMENTATION

1. How would you rate your **understanding** of the Nurture Group approach (i.e., the theoretical basis for the intervention and teaching practices required by your role)?

Very Strong Understanding	Strong Understanding	Good Understanding	Fair Understanding	Poor Understanding

2. To what extent do you feel confident **implementing** the intervention and teaching practices required by your role?

Very Confident	Confident	Unsure	Somewhat Confident	Not at All Confident

3. How often are you able to **consistently implement** the intervention and teaching practices required by your role?

Always	Most of the Time	Half of the Time	Occasionally	Never

4. Which factors **facilitate** your ability to consistently implement the intervention and teaching practices required by your role?

5. Which factors **limit** your ability to consistently implement the intervention and teaching practices required by your role?

6. Has the **Covid-19 pandemic** impacted your ability to implement the intervention and teaching practices required by your role? If so, how?

FACTORS INFLUENCING STUDENT OUTCOMES

7. Which aspects of the program do you find **effective** in terms of improving student outcomes?

8. Which aspects of the program do you find **less effective** in terms of student outcomes?

9. Do you have any suggestions to **increase the effectiveness** of the program (i.e., reduction in socio-emotional and behavioural challenges)?

10. Has the **Covid-19 pandemic** impacted the effectiveness of the Nurture Group provision in terms of student outcomes? If so, in which ways?

11. What are some of the **disadvantages** for students participating in the Nurture Group?

12. Do you have suggestions to **reduce or eliminate** these disadvantages?

13. Has the **Covid-19 pandemic** had an impact on the disadvantages of the Nurture Group program? If so, in which ways (e.g., increase, decrease, new disadvantages, etc.)?

PERCEPTION OF NURTURE GROUPS BY SCHOOL BOARD PERSONNEL

14. How is the Nurture Group **program** perceived by the **host school** (i.e., Lasalle Jr & Christmas Park)?

 - a. How does this impact program implementation? _____

b. How does this impact program effectiveness? _____

15. How are the Nurture Group **students** perceived by the **host school** (i.e., Lasalle Jr & Christmas Park)?

a. How does this program implementation? _____

b. How does this impact program effectiveness? _____

16. How are the Nurture Group **students** perceived by **homeschools** (i.e., re-integration schools)?

a. How does this impact re-integration support? _____

b. How does this impact student outcomes? _____

17. To what extent to do you feel that the school board community **understand the Nurture Group** program?

Very Strong Understanding	Strong Understanding	Good Understanding	Fair Understanding	Uninformed

18. To what extent to do you feel that the school board community **understand the profile of Nurture Group students** (e.g., background, impact of adversity on their developmental trajectory, needs, etc.)?

Very Strong Understanding	Strong Understanding	Good Understanding	Fair Understanding	Uninformed

CLINICAL SUPPORT

19. Since you started working in the Nurture Group, how would you rate the overall **quality of supervisory support** from the program director?

Excellent	Very Good	Good	Fair	Poor

20. Since you started working in the Nurture Group, how would you rate the **overall consistency of supervisory support** from the program director?

Very Consistent	Consistent	Somewhat Consistent	Poor	Unavailable

21. How has the overall **quality and consistency of supervisory support** from the program director influenced **program implementation**?

22. How has the overall **quality and consistency of supervisory support** from the program director influenced **program effectiveness**?

STAFF APPRECIATION

23. How many years have you been working in the Nurture Group Program? _____

24. Would you like to continue working in the program long-term (e.g., the next 5 years)? _____

APPENDIX N

NURTURE GROUP QUESTIONNAIRE FOR THE PROGRAM DIRECTOR



NURTURE GROUP QUESTIONNAIRE

Version: Program Director

FACTORS INFLUENCING PROGRAM IMPLEMENTATION

1. Which factors **facilitate** the teams' ability to consistently implement the intervention and teaching practices required by their roles?

2. Which factors **limit** the teams' ability to consistently implement the intervention and teaching practices required by their roles?

3. Has the **Covid-19 pandemic** impacted the teams' ability to implement the intervention and teaching practices required by their roles? If so, how?

FACTORS INFLUENCING STUDENT OUTCOMES

4. Which aspects of the program do you find **effective** in terms of improving student outcomes?

5. Which aspects of the program do you find **less effective** in terms of improving student outcomes?

6. Do you have any suggestions to **increase the effectiveness** of the program (i.e., reduction in socio-emotional and behavioural challenges)?

7. Has the **Covid-19 pandemic** impacted the effectiveness of the Nurture Group in terms of student outcomes? If so, in which ways?

8. What are some of the **disadvantages** for students participating in the Nurture Group?

9. Do you have suggestions to **reduce or eliminate** these disadvantages?

10. Has the **Covid-19 pandemic** had an impact on the disadvantages of the Nurture Group program? If so, in which ways (e.g., increase, decrease, new disadvantages, etc.)?

PERCEPTION OF NURTURE GROUPS BY SCHOOL BOARD PERSONNEL

11. How is the Nurture Group **program** perceived by the **host school** (i.e., Lasalle Jr & Christmas Park)?

a. How does this impact program implementation? _____

b. How does this impact program effectiveness? _____

12. How are the Nurture Group **students** perceived by the **host school** (i.e., Lasalle Jr & Christmas Park)?

a. How does this program implementation? _____

b. How does this impact program effectiveness? _____

13. How are the Nurture Group **students** perceived by **homeschools** (i.e., re-integration schools)?

a. How does this impact re-integration support? _____

b. How does this impact student outcomes? _____

14. To what extent do you feel that the school board community **understand the Nurture Group** program?

Very Strong Understanding	Strong Understanding	Good Understanding	Fair Understanding	Uninformed

15. To what extent do you feel that the school board community **understand the profile of Nurture Group students** (e.g., background, impact of adversity on their developmental trajectory, needs, etc.)?

Very Strong Understanding	Strong Understanding	Good Understanding	Fair Understanding	Uninformed

SCHOOL BOARD SUPPORT

16. Do you feel that the Nurture Group Program is adequately supported by the school board directors?

- a. Staffing YES NO
- b. Materials YES NO
- c. Transportation YES NO
- d. Physical Space YES NO
- e. Technology YES NO
- f. Consult Staff (SLP, OT, etc.) YES NO

17. Has the Covid-19 pandemic impacted the support provided by school board directors (e.g., amount, type)?

APPENDIX O

NURTURE GROUP QUESTIONNAIRE FOR THE ASSISTANT DIRECTOR OF STUDENT SERVICES



NURTURE GROUP QUESTIONNAIRE ASSISTANT DIRECTOR OF STUDENT SERVICES

1. Affordability
 - a. What initial or one-time costs had to be invested to implement this program?
 - b. What recurring costs are needed to sustain this program?
 - c. What other resources (e.g., space) are needed to sustain this program?
 - d. Has the Covid-19 pandemic impacted the affordability of the Nurture Group provision for your organization? If so, in which ways?
2. Disruption/Time
 - a. Will the organization have the capacity to provide the program to all children who need it?
 - b. Which aspects of the program are disruptive to your organization?
 - c. Do you have any suggestions to make this program less disruptive to your organization?
 - d. Has the Covid-19 pandemic influenced the degree to which the Nurture Group provision is disruptive to your organization? If so, in which ways?
3. Effectiveness
 - a. Which aspects of the program do you find effective?
 - b. Which aspects of the program do you find less effective?
 - c. Do you have any suggestions to increase the effectiveness of the program?
 - d. Has the Covid-19 pandemic influenced effectiveness of the Nurture Group provision in terms of reducing socio-emotional and behavioural difficulties experienced by students? If so, in which ways?
4. Reasonableness
 - a. Which aspects of the program do you find reasonable?
 - b. Which aspects of the program do you find less reasonable?
 - c. Do you have any suggestions to make this program more reasonable?
 - d. To what extent is the program consistent with your organization's values?
 - e. d. Has the Covid-19 pandemic influenced the degree to which the Nurture Group is considered a reasonable intervention by your organization? If so, in which ways?
5. Side-effects
 - a. Does this program have any side-effects to your organization?
 - b. Do you have any suggestions to prevent side-effects in the future?
 - c. Has the Covid-19 pandemic influenced side-effects of the Nurture Group provision? If so, in which ways?
6. Willingness
 - a. For what reasons would teachers or families not be willing to participate?
 - b. What would make teachers or families more willing to participate?
 - c. Has the Covid-19 pandemic influenced the willingness of teachers and families to participate in the Nurture Group? If so, in which ways?

APPENDIX P

FINAL NOTICE OF COMPLIANCE, CERPE FSH



No. de certificat : 2021-3199
Date : 2023-01-18

AVIS FINAL DE CONFORMITÉ

Le Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE FSH) a examiné le projet de recherche suivant et le juge conforme aux pratiques habituelles ainsi qu'aux normes établies par la *Politique No 54 sur l'éthique de la recherche avec des êtres humains* (avril 2020) de l'UQAM.

Titre du projet : Theory-Driven Outcome Evaluation of a Quebec-Based Nurture Group

Nom de l'étudiant : Patty Cloran

Programme d'études : Doctorat en psychologie

Direction(s) de recherche : (donnée introuvable)

Merci de bien vouloir inclure une copie du présent document et de votre certificat d'approbation éthique en annexe de votre travail de recherche.

Les membres du CERPE FSH vous félicitent pour la réalisation de votre recherche et vous offrent leurs meilleurs voeux pour la suite de vos activités.

Sylvie Lévesque
Professeure, Département de sexologie
Présidente du CERPÉ FSH

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