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Enhancing Preschool Children's Attention and Behaviour Through a Parent-Focused Program: A Non-Randomized Parallel Assignment Feasibility Pilot Study

Tasmia Hai
tasmia.hai@mcgill.ca

University of Manitoba
Margaux Bouillard
McGill University
Kayley Leurquin
University of Manitoba
Jamil Hriech
University of Manitoba
Holly Anderson
University of Manitoba
Leslie Roos
University of Manitoba

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Abstract

Background

Children’s developmental difficulties are significantly influenced by early exposure to parental psychological distress and mental health challenges. Preschool and young children with disrupted attentional/behavioural skills are at significant risk for social, developmental, and academic difficulties compared to their typically developing peers. While there is increasing recognition of the need to address both parental and child mental health, few early childhood programs target both areas simultaneously. Thus, the present study aims to evaluate the feasibility and acceptability of the Building Regulation in Dual Generations (BRIDGE) program, which was designed to improve both maternal mental health challenges (e.g. depression, anxiety, trauma, stress) and promote positive parenting for parents with young children with attention/behavioural problems. We will also assess preliminary efficacy of the (BRIDGE) program, for parents with young children with attention/behavioural problems to estimate effect sizes for future implementation. Combining Dialectical behaviour therapy (DBT), behaviour management, emotion socialization and mindfulness parenting strategies, the program seeks to support parental psychological distress and improve preschool children's self-regulation, thereby reducing their attention and/or behaviour problems. Ultimately, the goal of the program is to provide family-focused support that empowers parents to reduce their children’s attentional/behavioural difficulties.

Methods

The present study will be a non-randomized parallel assignment feasibility pilot design. Sixty parent-child dyads (30 participants and 30 controls) will take part in the study. Participants in the intervention group will complete the 12-week online BRIDGE program, along with in-person assessments at three time points: pre-intervention (week 0–1; T1), post-intervention (week 12; T2), and follow-up (week 24; T3). The control group will complete the same in-person assessments without participating in the intervention. Feasibility and acceptability will be evaluated by assessing program recruitment & retention rate, program satisfaction, processing time, assessment and questionnaire completion and attendance. Preliminary efficacy and exploratory outcomes will be assessed using repeated measures analyses of variance (ANOVA) and linear mixed-effects model will be used to compare outcomes between the intervention and control groups across the three time points while controlling for baseline characteristics (age, sex, baselines symptoms).

Discussion

In summary, the study aims to explore the feasibility, acceptability and potential efficacy of the BRIDGE program in addressing parents’ mental health difficulties and children’s attentional and/or behavioural problems. Results will guide program implementation for future randomized controlled trials. This research will add to the existing literature on the benefit of family-based parenting program for

caregivers of young children. The study has broader implications for policymakers and educators, who could use its findings to offer practical strategies for supporting parents experiencing mental health challenges and to improve children's attentional and behavioural outcomes, ultimately promoting positive early education and child development.

Trial Registration

The protocol has been registered on ClinicalTrial.gov on July 16^{th,} 2025 (24-06-073).

Introduction

Exposure to parental psychological distress and mental health challenges during the preschool years is a critical risk factor for the development of children's own social-emotional difficulties (Landstedt & Almquist, 2019; Wolf & McCoy, 2019). Problematic behaviours, such as impulsivity and attention problems, often emerge during this period, hindering children's acquisition of foundational academic and social skills and leading to future social-emotional and developmental challenges (Wolraich et al., 2019). Specifically, attention and/or behavioural problems in preschool children can lead to poor self-regulation, aversion to delay, difficulties with vocabulary acquisition, and lower academic readiness (Biele et al., 2022; Dennis et al., 2023; Landis et al., 2021; Zhao et al., 2023). Early difficulties with self-regulation in preschoolers are highly predictive of the development of future behavioural problems in school-aged children, including diagnosis of Attention-deficit/hyperactivity disorder (ADHD) and learning disorders (Wåhlstedt et al., 2008; Zhao et al., 2023). Failure to address these behavioural difficulties may lead to the eventual diagnosis of childhood neurodevelopmental and mental health disorders and increased levels of parenting stress.

Rates of increasing maternal depression have sparked an urgent global health concern, as postpartum depression is the most common health concern associated with childbirth, which impacts both mothers and their children (Hahn-Holbrook et al., 2017; Wang et al., 2021). Systematic reviews on global rates of postpartum depression estimate that one in every five mothers (16-19%) will experience maternal depression after giving birth (Hahn-Holbrook et al., 2017; Wang et al., 2021). Although these rates vary widely by country or region, depression occurs in as many as 22% of mothers in rural areas, as reported by another meta-analysis (Pan et al., 2025). The commonality of maternal depression underscores an urgent need for interventions that extend beyond the perinatal period, as symptoms often persist and become chronic without treatment (Morales et al., 2023).

The consequences of untreated maternal mental health challenges are profound. Beyond the emotional and mental health challenges that mothers with depression face, there is also an increased risk of morbidity or even mortality for mothers managing maternal depression (Yang et al., 2022). A meta-analysis on health-related quality of life in relation to perinatal depression found that mothers who experienced depression reported significantly worse across all quality-of-life domains compared to non-depressed mothers (Li et al., 2022). Furthermore, maternal depression is associated with negative

outcomes for the entire family, including social, emotional and cognitive health of mothers, spouses, and children (Wang et al., 2021). This is particularly true for prolonged chronic cases of maternal depression, which pose an increased risk of poor socio-emotional outcomes in children (Morales et al., 2023).

Impact of Maternal Mental Health on Child Development

Maternal mental health challenges, such as anxiety and depression, are associated with a range of developmental outcomes in preschool and school-aged children, including attention and behaviour problems (Tucker & Hobson, 2022). These mental health challenges can impact how mothers feel and behave toward their children, which may in turn have downstream effects on children's mental health through pathways such as harsh parenting, low maternal sensitivity, and attachment insecurity (Pan et al., 2025). Children exposed to maternal depression before age 5 years are up to 17% more likely to develop deficits in social competence, emotional maturity, and other domains of school readiness (Wall-Wieler et al., 2020). These deficits include anxiety and ADHD-related symptoms such as hyperactivity and inattention, which reflect the broader developmental risk profile of young children exposed to maternal depression and the harsh parenting style associated with maternal depression. Maternal mental health difficulties place children at greater risk of both internalizing and externalizing behaviour problems, as well as anxiety, depression, and ADHD (Goodman et al., 2011; Tucker & Hobson, 2022), which may require early family-based interventions that target maternal mental health to prevent the development of these problems into adolescence or adulthood.

Mental health programs

Family-focused parenting interventions are holistic interventions that offer structured support for the family to improve mental health and parenting (Foster et al., 2015; Leslie et al., 2016). The focus of these interventions is to offer parents strategies to manage their own behavioural and emotional difficulties, change pattern of communication, and reduce conflict in order to offer appropriate problem solving and support (Leslie et al., 2016). Family-focused interventions aim to reduce parenting stress while improving maternal sensitivity and parent-child interactions. By reducing parenting stress, mothers could engage with their children more sensitively and responsively, which would facilitate the coregulation that children need to control their attention and behaviour in a developmentally appropriate way. Without early family-based interventions, maternal mental health challenges are likely to persist, and the longer they do persist, the greater the risk they pose to school-aged children's global development (Kingston & Tough, 2014).

Existing literature on the use of parenting interventions alone in either virtual or in-person formats for improving maternal depression, anxiety, or stress shows promise, but the effects are small to moderate (Waldrop et al., 2021). Virtual interventions, including online psychoeducational videos and teletherapy, are associated with improvements in maternal depression and anxiety, and show promising effects on suicidal ideation. These programs are particularly valuable for mothers who live in rural areas, have demanding schedules, or face barriers leaving the home, because they offer flexible, low-threshold access to support (Hai et al., 2025; Tongol et al., 2024; L. Zhao et al., 2021).

In-person parenting programs also demonstrate positive impacts on maternal mental health (Waldrop et al., 2021). Shared care models that coordinate psychiatrists, psychologists, and social workers improve depression and anxiety outcomes, especially for mothers with more severe symptoms. Mother–child group interventions have been linked to reductions in maternal depressive symptoms and enhanced mother–child relationships, while cognitive behavioural stress management programs are effective for mothers coping with the challenges of raising children with conditions such as ADHD. However, much of the existing evidence focuses on the perinatal period, indicating an important gap and a need to expand both virtual and in-person parenting programs for mothers of preschool and school-aged children.

Theoretical Framework

Early exposure to parental mental health challenges and parenting stress can be detrimental to the development of children's self-regulation (SR) skills through associated increases in harsh parenting behaviours such as verbal aggression or physical violence (Zalewski et al., 2018). SR skills are often referred to as modifications of behaviour which are essential for the regulation of emotions, cognitions and behaviours (Lunkenheimer et al., 2023). Use of harsh parenting strategies may impede children's ability to co-regulate emotions and manage behaviour, leading to greater difficulties with internalizing and externalizing problems (Flannery et al., 2023). Following the Self-Regulation Intergenerational Transmission model framework, family-focused parenting programs can promote SR skills such that parental emotion regulation strategies inform and shape the development of their children's SR skills and broader social-emotional wellbeing (Bridgett et al., 2015; Murray et al., 2019). Given that parent mental health can amplify the likelihood of intergenerational transmission of children's developmental problems due to stress-linked disruptions in children's biology, family-focused programs can disrupt this transmission.

Rationale and Current Study

Despite growing recognition of the importance of addressing both parental and child mental health, few programs simultaneously target both domains in early childhood (Izett et al., 2021). This study addresses the gap in current literature by focusing on parent-focused support for young children with attention and/or behaviour problems. Specifically, we will evaluate the feasibility and preliminary efficacy of the Building Regulation in Dual Generations (BRIDGE) program for caregivers with significant mental health concerns and young children (3-7 years old) with elevated attention and/or behaviour problems (Roos et al., 2023). The BRIDGE program focuses on supporting parental psychological distress and improving preschool children's SR, thereby reducing their attention and behaviour problems (Bridgett et al., 2015; Brikell et al., 2015; Landstedt & Almquist, 2019). It aims to empower parents with tools and strategies to positively impact their children's behaviour.

The key objectives of the study are to assess the feasibility and accessibility of BRIDGE for preschool and young children with significant attention/or behaviour programs through questionnaires asking about attendance, satisfaction, and unmet needs. We will also evaluate the preliminary efficacy of the BRIDGE program compared to a control group in relation to maternal mental health (depressive

symptoms) and child attention/or behavioural difficulties in young children. Based on findings from a previous feasibility trial of the BRIDGE program (Roos et al., 2023) and a recently completed randomized controlled trial (RCT; Penner-Goeke et al., 2023), we consider the selection of these outcomes to be appropriate for the assessment of preliminary efficacy for future RCTs. The secondary outcomes will be assessed through changes in parenting stress, parent anxiety, child self-regulation and academic readiness compared to a control group following participation in the BRIDGE program. However, these analyses of clinical outcomes are exploratory in nature, as the primary aim of the study is to assess the feasibility of the BRIDGE program for suitability within a population of children with significant attention/or behaviour problems.

Methods

Study Design and Population

The present study will use a non-randomized parallel assignment feasibility pilot design to assess the BRIDGE program (Figure 1). The study will include 60 parent-child dyads residing together in Quebec, Ontario, or Manitoba. Thirty dyads will be assigned to the BRIDGE intervention group, while the remaining 30 will be control participants, functioning as a comparison group. Eligible participants for the BRIDGE group will be 18 years of age or older and must be experiencing clinically significant symptoms of depression both currently and during or after pregnancy, as indicated by a clinically significant depression (mild to moderate range on the PHQ-9; Kroenke et al., 2001). Children will be between 3 and 7 years of age and present with elevated attention and/or behavioural problems as indicated by a T-Score of >65 on the Child Behavior Checklist (CBCL) ADHD or the Internalizing or Externalizing subscales (Achenbach, 1999; Kroenke et al., 2001). Participants must be fluent in English, as both the BRIDGE program and the assessment materials are administered in English (See Table 1 for more details). All eligible participants will attend in-person testing sessions at McGill University or the University of Manitoba at three time points, pre-intervention (T1), post-intervention (T2), and follow-up (T3). Due to the virtual nature of the BRIDGE program and frequency of sessions, the BRIDGE program was not designed for individuals who are at high risk of suicide. Therefore, if a potential participant indicates current suicidal ideation, and recent suicidal attempt, the participant would be deemed ineligible. They will be contacted by the PI to discuss symptoms and offer appropriate community resources.

The intervention will be delivered virtually, making it accessible to families regardless of geographic location. During the in-person assessment, parents will complete self-report measures about their mental health and family functioning and their child's social-emotional development. Children will complete behavioural tasks administered by research staff. Parents will be compensated with $140 for their participation. Cost of parking or transit will also be covered for the in-person assessments.

Recruitment

Participants will be recruited through online advertisements on Instagram and Facebook, flyers posted at community centers and daycare centers, as well as referrals from community and pediatric clinics.

Interested individuals will receive study information and will be screened for eligibility via self-report questionnaires administered through Qualtrics. Eligible participants will be invited to a semi-structured intake interview via either a phone or video call, during which further questions about their mental health and child behaviour will be asked. Once eligibility has been met, participants will then attend a two-hour in-person assessment with the research team at McGill University or the University of Manitoba. A research assistant or project coordinator will conduct informed consent with the parent and assent with the child at that meeting. Participants will be invited back at three time points, pre-intervention (T1), post-intervention (T2; after week 12), and follow-up three months post-intervention (T3; week 28). Participants complete the same clinical questionnaires and in-person child assessments at each timepoint. Additionally, participants in the BRIDGE group are asked to provide feedback on their experience with the program.

Ethics approval and consent to participate

This study received ethics approval from the McGill Research Ethics Board Office (REB#24-06-073) and the University of Manitoba Fort Gary Research Ethics Board (HE2025-0145) prior to its start. Participants who are deemed eligible through the eligibility survey will first be provided with a screener consent form. Following the intake interview, participants will be invited for the in-person assessment meeting. During that meeting, parents will be given an informed consent form to sign. All signatures will be collected before gathering information, with the screener consent form completed online and the informed consent form completed in person. Additionally, children will be asked to provide verbal assent.

Intervention: BRIDGE Program

The BRIDGE program was designed in collaboration with community partners and a parent advisory board to support mothers with mental health challenges (e.g. depression, anxiety, trauma, stress) and promote positive parenting. The BRIDGE program uses Dialectical Behaviour Therapy (DBT) skills that target core SR mechanisms and have demonstrated transdiagnostic efficacy for the treatment of depression and anxiety (Delaquis et al., 2022). Previous trials of BRIDGE have resulted in significant improvements in maternal depression, as well as the mental health of their children, with greater changes observed in mothers with higher psychological distress (Penner-Goeke et al., 2023; Roos et al., 2023).

The BRIDGE program for this pilot study is a 12-week synchronous online group therapy intervention co-facilitated by a parent coach and a clinical psychologist or a DBT skills trained graduate student. The 1-hour long weekly group therapy sessions are supplemented with 10–20-minute weekly online video content containing DBT and parenting skills training modules based on best practices in evidence-based parenting interventions including DBT, behaviour management, emotion socialization and mindfulness parenting strategies (Penner-Goeke et al., 2023; Roos et al., 2023). BRIDGE materials also include weekly worksheets to practice and apply the associated weekly DBT skill usage. At week 6, participants will have a mid-program check-in via email to monitor progress and address concerns. Additional individual sessions are offered to answer questions or cover discussions that were missed due to absences.

Primary Outcomes

The primary outcomes of the study are the BRIDGE program's feasibility and acceptability. Additionally, parent and child mental health will be measured to assess for preliminary efficacy of the BRIDGE program to estimate effect size and variance for future studies (See Table 2). Study feasibility and acceptability metrics will include recruitment rate, program satisfaction, processing time, in-person assessment and survey completion time, retention rate, group program attendance and safety. Recruitment rate will be measured by the number of participants recruited per week. Program satisfaction will be assessed using the parent self-report program acceptability and satisfaction questionnaire completed following the completion of the BRIDGE program. Processing time will be measured by time from initial contact with participant until study enrollment. Program retention rate will be measured by the percentage of participants in the program after the post intervention (T2). Assessment and questionnaire completion will be determined by the percentage of participants who completed assessments and surveys at all three time points. Group program attendance will be recorded by the number of weekly BRIDGE therapy group sessions attended by the participants. The program will be deemed safe if there are no adverse events reported by parents from participating in the BRIDGE program.

In order to measure preliminary treatment efficacy, exploratory analyses of changes in both parent mental health and child behaviour will be measured from baseline (T1) to post-intervention (T2) and at 3-month follow up (T3). Parental outcomes will be assessed using validated self-report questionnaires to evaluate mental health and parenting-related variables. Maternal depression will be measured with the Patient Health Questionnaire (PHQ-9; (Kroenke et al., 2001). The PHQ-9 has good to excellent reliability. Child attention and behaviour will be assessed using the Child Behaviour Checklist (CBCL; (Achenbach, 1999). The CBCL demonstrates high test–retest reliability and internal consistency, with intraclass correlations and alpha coefficients often above 0.8–0.9 for broadband scales. All feasibility metrics and treatment efficacy measures are listed in Table 2.

Secondary Outcomes

The analyses of clinical outcomes are secondary and exploratory given the lack of statistical power to identify group differences with a small pilot study sample.The secondary outcomes include both parent mental health, parenting stress, child self-regulation and academic readiness measures (see Table 3). Changes in parenting stress and parent reports of anxiety will be measured to collect data for a future large-scale randomized controlled trial (RCT). The Parenting Stress Index (PSI) and its Short Form show good internal consistency for Total Stress and subscales (Parental Distress, Parent–Child Dysfunctional Interaction, Difficult Child), with Cronbach's alpha typically reported in the high 0.8 to 0.9 range (Abidin, 1997). The General Anxiety Disorder-7 item scale (GAD-7) also has strong internal consistency, test re-test reliability and validity (Spitzer et al., 2006).

Child social-emotional development and self-regulation will be measured using the Behavior Assessment System for Children, Third Edition (BASC-3; Reynolds & Kamphaus, 2015). The BASC-3

system shows high internal consistency and test–retest reliability for major composite scales, with coefficients generally ≥0.80 in child and adolescent samples. Additionally, child academic readiness skills will be measured using the Bracken School Readiness Assessment (BRSA; Bracken, 1996). The BRSA reports good internal consistency and test–retest reliability for total and subscale scores, generally in the acceptable to excellent range.

Exploratory Outcomes

Table 3 summarizes the exploratory outcomes measured in this study. Additional questionnaires will assess maternal feelings of anger and sleep using the Patient Reported Outcomes Measurement Information System (PROMIS) Anger [PROMIS-A] and Sleep Disturbance scales (Cella et al., 2019). Maternal ADHD symptoms will be measured with the Adult ADHD Self-Report Scale (ASRS; Kessler et al., 2005). Child Executive function will be measured using the Behaviour Rating Inventory of Executive Function–Preschool or School-aged version (BRIEF); Gioia et al., 1996). Studies in normative and clinical preschool samples report good internal consistency for BRIEF scales (alphas typically in the 0.7–0.9 range) and support the original five-factor, higher-order model via confirmatory factor analysis.

Child outcomes related to changes in verbal skills, non-verbal skills and core attention skills will be measured. Subtests from the NEPSY-II and the KABC-II will be used to measure cognitive and language skills (Kaufman & Kaufman, 1983). Studies show that these measures exhibit strong reliability, with composite scale alphas commonly in the high 0.8 to 0.9 range and good test–retest stability. Children 4 years and older will also complete the Conners Kiddie Continuous Performance Test, 2nd Edition, to assess their core attention skills (Conners, 2014).

Sample Size

As this is a pilot and feasibility study, a sample size calculation was not conducted. However, based on a previous mixed-method feasibility pilot of the BRIDGE program (Roos et al., 2023) and general recommendations regarding sample size for pilot studies (Billingham et al., 2013), a target sample of 30 participants per group would be sufficient to evaluate the BRIDGE program's feasibility, acceptability and preliminary efficacy.

Statistical Analysis

Given that this is a pilot study, the statistical analysis will therefore focus on estimation, feasibility, and patterns of change. Analyses will be conducted primarily in an intention-to-treat framework, including all participants who provide baseline and at least one post-baseline assessment. The feasibility and acceptability metrics will be assessed using percentile or mean-score thresholds for each outcome measure. (See Table 2 for assessment criteria of each feasibility metric). Our primary mental health outcome for the parent is the PHQ-9, and for children, the CBCL externalizing, internalizing and ADHD subscales for behavioural problems and attention scores. A repeated measures analysis of variance

(ANOVA) will be used to assess changes across three time points: pre-intervention (T1), post-intervention (T2), and follow-up (T3).

Secondary outcomes will be analyzed to examine changes in both parent and child domains across the study period. For all continuous outcomes, descriptive statistics (means, standard deviations, medians, ranges) will be reported at each time point, along with estimates of within-subject change and corresponding confidence intervals. Where relevant, child age, parent age, or baseline severity may be included as a covariate to describe how change varies across participant characteristics. When only two time points are available, change scores will be computed as post-intervention minus baseline and analyzed using regression models.

Total parenting stress and subscale scores and parent anxiety will be analyzed using linear mixed-effects models (LMMs) with time (baseline, post-intervention, and follow-up) as a within-subject factor. Child outcomes for academic readiness and self-regulation will be analyzed using repeated measures analyses, controlling for baseline age and sex, with post hoc testing adjusted for multiple comparisons using false discovery rate corrections.

Exploratory outcomes will further examine maternal and child factors that may influence intervention effectiveness. Maternal anger, sleep disturbance, and ADHD symptoms will be analyzed using separate LMMs, and correlations among changes in stress, sleep, and dysfunctional parenting will be explored using Pearson correlations. Exploratory mediation analyses may be conducted to examine whether changes in parenting stress or sleep predict improvements in child outcomes. Child executive function, cognitive and attention skills will be assessed using LMMs and correlations among changes in skills will be assessed.

Discussion

The present study aims to evaluate the feasibility, acceptability and preliminary efficacy outcomes of the BRIDGE online virtual program in addressing mothers' mental health challenges and supporting children with attentional and/or behavioural difficulties. The key objectives of the BRIDGE program are to improve both maternal mental health challenges (e.g. depression, anxiety, trauma, stress) and promote positive parenting for parents with young children with attention/behavioural problems. Using DBT, behaviour management, emotion socialization and mindfulness parenting strategies, the program seeks to support parental psychological distress and improve preschool children's self-regulation, thereby reducing their attention and/or behaviour problems. The proposed pilot study will build on a previous RCT supporting mothers with significant mental health problems. These findings will contribute to family wellbeing by improving emotion regulation across both parents and children through the implementation of a scalable dual-generation program.

Abbreviations

- ADHD: *Attention-Deficit/Hyperactivity Disorder*
- ANOVA*: Analysis of Variance*
- ASRS: *Adult ADHD Self-Report Scale*
- BASC: *Behavior Assessment System for Children*
- BRIDGE: *Building Regulation in Dual Generations*
- BRIEF: *Behaviour Rating Inventory of Executive Function*
- BRSA: *Bracken School Readiness Assessment*
- CBCL: *Child Behaviour Checklist*
- DBT: *Dialectical Behaviour Therapy*
- GAD-7: General Anxiety Disorder-7 item scale
- KABC: *Kaufman Assessment Battery for Children*
- LMM: *Linear Mixed Models*
- NEPSY-II: *A Developmental Neuropsychological Assessment, Second edition*
- PHQ-9: *Patient Health Questionnaire-9*
- PI: *Principal Investigator*
- PROMIS: *Patient Reported Outcomes Measurement Information System*
- PSI: *Parenting Stress Index*
- RCT: *Randomized Controlled Trial*

Declarations

Consent for publication

Participants will be asked to provide consent for their data to be published through the informed consent form. They will be informed that all of their information will remain anonymous and will be linked to an ID number assigned to them. Personal information will be stored on a secure, password-protected OneDrive account. Once data collection is complete, personal information will be deleted one year after the first study publication (approximately October 2028). All de-identified data will be deleted seven years after the first publication or dissemination, around October 2033, in accordance with McGill's Regulations on the Conduct of Research. If they change their mind at any point before anonymization, their data will be deleted. Parents will also be required to provide consent on behalf of their child.

Availability of data and materials

As principal investigator, Dr. Hai will be primarily responsible for data management. Data will not be released to any third party (including the funder) before the trial is completed.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

TH contributed to obtaining funding, conception and design and drafted and revised the manuscript. MB, KL, JH and HA contributed to the manuscript's drafting and revision. LER created the BRIDGE program, supported with obtaining funding, and the revision of the draft.

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Tables

Table 1 *Inclusion and Exclusion Criteria*

Inclusion Criteria
1. 18 years of age or older
2. Self-identify as a mother or female primary caregiver of a child between the ages of 3-7 years old
3. Currently residing in Quebec, Ontario, or Manitoba
4. Fluency in English
BRIDGE Group Eligibility
1. Mothers currently experiencing clinically significant symptoms of depression (mild to moderate on the PHQ-9 (total score >5) and indicating these symptoms have made it at least somewhat difficult to complete tasks (e.g. take care of things, getting along with people etc.)
2. Children presenting with elevated attention and/or behavioral problems (CBCL T-score > 65 on the ADHD or the Internalizing/Externalizing problems subscales)
Control Group Eligibility
1. Mothers NOT currently experiencing clinically significant symptoms of depression (total score on PHQ-9 <5) and reporting these symptoms have not made it difficult to complete tasks.
2. Children NOT presenting with elevated attention and/or behavioral problems (CBCL T-score < 65 on the ADHD or the Internalizing/Externalizing problems subscales)
Exclusion Criteria
1. Unable to meet the inclusion criteria listed above
2. Self-reported suicidality on the eligibility screener[a]
3. Unable to attend weekly BRIDGE group therapy sessions (BRIDGE group only)

Note. BRIDGE = Building Regulation in Dual Generations; PHQ= Patient Health Questionnaire 9-item; CBCL = Child Behavior Checklist; ADHD = Attention Deficit Hyperactivity Disorder.

[a]The BRIDGE therapy program is not intended to treat patients who are at high risk of suicide. If a participant is deemed ineligible due to reporting suicidality, they will be contacted by the PI to discuss symptoms and offer appropriate community resources.

Table 2 *Primary Outcomes*

Outcome Measure	Assessment Methods	Criteria
Feasibility Metrics		
Recruitment Rate	Number of participants Recruited per week	Mean 1 participant/week
Program Satisfaction	Parent self-report program acceptability and satisfaction questionnaire	Mean score of > 3 out of 5
Processing time	Time from initial contact until study enrollment	Mean time is < 1 week
Program Retention Rate	% of participants with data at T2	>80% of participants after the post-intervention (T2)
Assessment Completion	% of participants who completed all three in-person assessments	>80% of participants follow-up data
Questionnaire completion	% of participants who completed questionnaires at all three timepoints	>80% of participants follow-up data
Group Program Attendance	Number of weekly BRIDGE therapy group sessions attended	Mean of >10 group sessions attended
Safety	Report of adverse events from participating in the BRIDGE program	No reports of adverse events
Preliminary Treatment Efficacy		
Maternal mental health (depression)	Comparison of PHQ-9 depression symptoms over time	Significant changes across T1, T2, and T3
Child mental health symptoms (ADHD and Behaviour symptoms)	Comparison of CBCL ADHD symptom, internalizing and externalizing behavior problems over time	Significant changes across T1, T2, and T3

Note. PHQ-9 = Patient Health Questionnaire 9-item; CBCL Child Behavior Checklist

Table 3 *Secondary and Exploratory Outcomes*

Outcome Measure	Assessment Methods
Secondary outcomes	
Parenting Stress	Comparison of total parenting stress and subscale scores (Parental Distress, Parent–Child Dysfunctional Interaction, and Difficult Child) over time
Parent symptoms of Anxiety	Comparison of GAD-7 self-report anxiety symptom scores over time
Child Academic Readiness	Comparison of BRSA-4 child academic readiness assessment scores
Child Self-Regulation	BASC-3 parent-reported social development and self-regulation
Exploratory outcomes	
Maternal Anger	Comparison of PROMIS self-reported anger problems over time
Maternal Sleep Disturbance	PROMIS-Sleep Disturbance
Maternal ADHD Symptoms	Adult Self Report Scale of ADHD symptom scores
Child Executive function	Parent-reported BRIEF-P child executive functioning scores
Child Verbal and Cognitive Skills	Comparison of verbal and non-verbal skills using subtests from the NEPSY-II and KABC-II:NU
Child Attention skills	Conners Kiddie Continuous Performance Test, 2nd Edition scores over time

Note. GAD-7 = Generalized Anxiety Disorder 7-item; BRSA-4 = The Bracken School Readiness Assessment, 4th Edition; BASC-3 =Behavior Assessment System for Children, Third Edition; PROMIS = Patient-Reported Outcomes Measurement Information System; ADHD = Attention Deficit Hyperactivity Disorder; BRIEF-P = Behavior Rating Inventory of Executive function – Preschool Edition; KABC-II = Kaufman Assessment Battery for Children, Second Edition Normative Update, NEPSY-II = A Developmental Neuropsychological Assessment, Second Edition

Figures

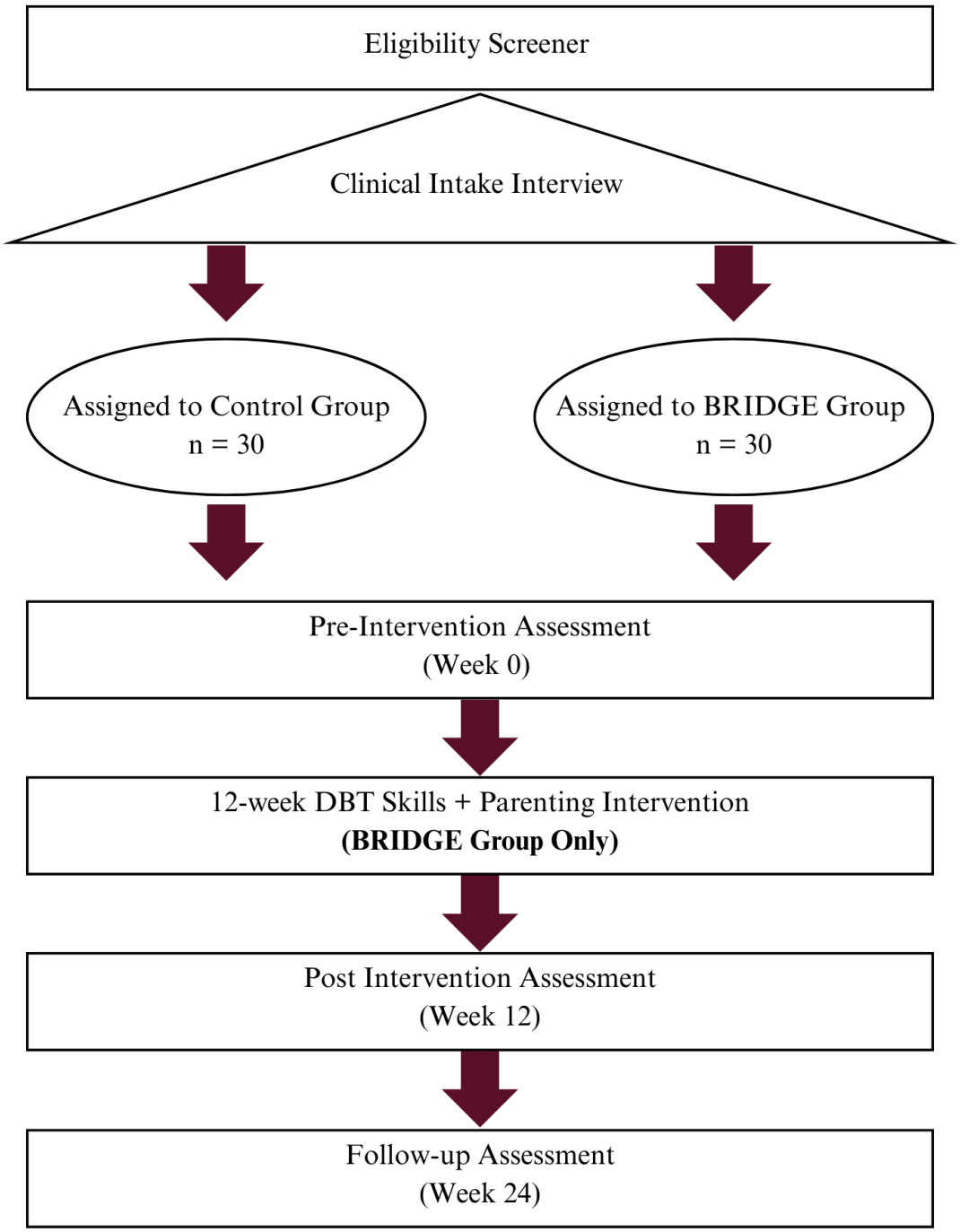


Figure 1

Participant Flowchart