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A National Implementation of a Community-Based Intervention for Mothers Experiencing Violence in Relationships

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Interpersonal violence is a significant concern for families; thus interventions to support vulnerable mothers and children experiencing violence are essential. The purpose of this study was to present preliminary evaluation results from the national dissemination of an interpersonal violence intervention for mothers delivered in community-based programs across Canada. In 18 communities, 184 mothers participated in the intervention. Mothers reported on measures related to the self, relationships, parenting, and knowledge of community services, both before and after the intervention. Mothers comprised a high-risk, vulnerable population. Results indicated feasibility and acceptability, based on a high proportion of intervention completers and high levels of satisfaction. Women reported improvements in self-esteem, self-efficacy, relationship capacity, parenting stress, knowledge of community services, and understanding of relevant concepts compared to before the intervention (with small to medium effects). Additional analyses supported some of these findings as particularly robust. We discuss the importance of community-based projects in reaching diverse families, sustaining engagement with high levels of satisfaction, and supporting mothers in making changes relating to themselves, their relationships, and their parenting.

Keywords: interpersonal violence, intervention, community-based research, parenting, mothers

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Interpersonal violence is a significant concern for families (Breiding, Chen, & Black, 2014). Some refer to this as domestic violence, family violence, or intimate partner violence; we use the term interpersonal to highlight the intergenerational nature of violence in relationships and that violence is often not exclusive to violence between partners. Here, interpersonal violence refers to any violence occurring in the context of an established relationship (as opposed to an acquaintance or stranger; Violence Prevention

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Alliance, 2019), including emotional, physical, sexual, economic, spiritual, or digital abuse, as well as criminal harassment/stalking (Leslie, Reynolds, Motz, & Pepler, 2016). Both men and women can act as perpetrators and/or victims of interpersonal violence. Women, however, are more often victims of severe forms of physical and sexual violence, are more afraid of the harm that abusers cause, and are more likely to be killed by an intimate partner than are men (e.g., Hardesty & Ogolsky, 2020; Violence Policy Center, 2018). This study focuses on women experiencing violence in relationships (which most often comprises victimization but can also comprise perpetration).

Concerns around parents' experiences of interpersonal violence also extends to children, given links between interpersonal violence and child maltreatment (e.g., increased risk for child maltreatment when mothers and/or fathers are involved in partner violence; Taylor, Guterman, Lee, & Rathouz, 2009) and links to child development and parenting (Humphreys, Thiara, & Skamballis, 2011; Levendosky, Huth-Bocks, Shapiro, & Semel, 2003; Moehler, Biringen, & Poustka, 2007). For children, witnessing or overhearing violence, witnessing its aftermath, or experiencing ongoing worry about their own or a parent's safety can have long term neurological, behavioral, and social-emotional effects (e.g., Devaney, 2015). Interpersonal violence can also, both directly and indirectly, impact parenting. Many mothers who experience interpersonal violence struggle in their parenting role (e.g., Moehler et al., 2007). Though many women are also resilient in the face of

trauma and violence (e.g., Lieberman, Padrón, Van Horn, & Harris, 2005), trauma (including trauma in relationships as well as many other sources) is often linked with depressive symptoms and can impair psychological functioning, including executive functioning and emotion regulation (e.g., Cross, Fani, Powers, & Bradley, 2017); these and other symptoms of trauma are often linked to a lack of warmth and responsiveness in parenting (e.g., Levendosky et al., 2003). Further, interpersonal violence can be used directly or indirectly by one partner to undermine the other partner's parenting or to attack the parent—child relationship (e.g., Humphreys et al., 2011). As such, interventions to support parents (in this case, mothers) experiencing interpersonal violence are critical (we use the terms women and mothers interchangeably, as the focus of this study is women in a parenting role).

Theoretical Foundations for an Interpersonal Violence Intervention

Trauma-Informed Intervention

Interpersonal violence cannot be addressed without a consideration of trauma; interpersonal violence is itself a form of trauma. Mothers with histories or current experiences in unhealthy relationships as adults have often experienced violence or abuse in their families of origin (Widom, Czaja, & Dutton, 2014). As such, it is helpful that interventions that aim to support these women adopt a trauma-informed approach (e.g., Fowler & Faulkner, 2011). A trauma-informed approach involves not only understanding that individuals' trauma histories can impact their current behavior and functioning (Savage, Quiros, Dodd, & Bonavota, 2007), but also responding to individuals in a manner that integrates trauma knowledge, policies, practices, and principles. This can include being able to recognize signs of trauma, understand the impact of trauma, and know how to support those who are, or have, experienced trauma (Leslie et al., 2016; Substance Abuse & Mental Health Services Administration, 2014). Interventions for interpersonal violence should promote women's autonomy and choice, be strengths based, and actively resist retraumatization (Leslie et al., 2016). A trauma-informed approach includes creating safe physical and emotional environments for delivering an intervention, modeling healthy relationships, and working with others to offer holistic, integrated support (Leslie et al., 2016).

A Relational Approach to Intervention

A relational approach highlights that people, institutions, and systems change through relationships with one another (e.g., Jordan, Walker, & Hartling, 2004). At a proximal level—considering intervention content—the mother—child relationship can be explicitly highlighted and supported (Humphreys et al., 2011; Letourneau et al., 2013). This might include information about positive parenting and the impact of interpersonal violence on children's development and well-being. Some interventions include a dyadic component, with children participating with their mothers in treatment. It should be considered, however, that women may require a supportive intervention in which they can reflect on their experiences of trauma (i.e. potentially sharing details of violent interactions) in discussions that are inappropriate for children and potentially harmful to the parent—child relationship.

From a structural perspective, a relational approach includes understanding and providing opportunities for mothers' reflection on their current and past involvement in unhealthy relationships while providing nonjudgmental support. Mothers need to feel safe and supported within an intervention setting; developing trust with facilitators is essential (Ragavan, Bruce, et al., 2018). Many interpersonal violence interventions operate as small group sessions, effectively creating communities, building supportive networks, and reducing feelings of isolation (Howell et al., 2015; Macy, Ermentrout, & Rizo, 2012; Ragavan, Bruce, et al., 2018; Ragavan, Thomas, et al., 2019). A relational approach also includes ensuring a welcoming, comfortable, and safe environment (Macy et al., 2012). Though not all women who experience violence in relationships are economically disadvantaged (indeed, violence in relationships can affect people of significant wealth; Haselschwerdt & Hardesty, 2017), many are (Hardesty & Ogolsky, 2020). As such, interventions might also include instrumental supports, including childcare, food, and transportation. Broadly, promoting and supporting relationships between services providers and with community partners can be helpful. Integrating services at the organizational level can help support families experiencing violence in relationships, who are often involved in multiple service sectors (e.g., child protection services, legal services, counseling services; Andrews, Motz, Pepler, Jeong, & Khoury, 2018; Andrews, Pepler, & Motz, 2019; Espinet, Motz, Jeong, Jenkins, & Pepler, 2016).

Embedding Intervention Within Community

Community-based projects or services that offer programming for parents and children often act as an entry point for families to connect with health and social supports within their communities. Integrating interpersonal violence interventions into family oriented community-based projects and utilizing community-based outreach models may decrease barriers to engagement and attendance (Hackett, McWhirter, & Lesher, 2016; Ragavan, Bruce, et al., 2018). Community-based projects are often well-connected to other services and supports within their own agency or through partner organizations. Thus, these projects are not only well-situated to identify and support families experiencing interpersonal violence (and as such, reduce/prevent child maltreatment), but also can connect families to other community-based services and resources (Galano, Grogan-Kaylor, Stein, Clark, & Graham-Bermann, 2017; Macy et al., 2012).

Existing Interpersonal Violence Interventions

Existing interventions often focus on safety planning, promoting positive emotional and mental health, empowering women, and setting goals for the future (Anderson & van Ee, 2018; Graham-Bermann & Miller-Graff, 2015; Ragavan, Thomas, et al., 2019). Though less common, there are also interventions specifically for mothers that include parenting information (e.g., Galano et al., 2017; Macy et al., 2012; Ragavan, Bruce, et al., 2018); however, these do not necessarily include components focused on women's mental health and empowerment. There is a growing recognition of the need for interventions that focus on both parenting and women's mental health and empowerment (see Graham-Bermann & Miller-Graff, 2015). Letourneau and colleagues (2013) found

that mothers managing interpersonal violence wanted integrated services, with information on positive parenting, enhancing the mother-child relationship, and understanding child development, as well as emotional support from professionals and peers.

Though not for all women, unhealthy relationships early in childhood can continue into adult intimate partner relationships and can affect both parenting capacity and the parent–child relationship (e.g., Humphreys et al., 2011). Understanding the intergenerational nature and cycle of unhealthy relationships, therefore, may be an important component of interventions. Interventions might include a component that enables mothers to reflect upon their past, present, and future relationships and experiences. This allows women to consider their own early relationships and experiences of being parented, how relationships may have impacted their past and current relationships, and how to move forward in their parenting and other relationships.

The Connections Intervention

Connections: A Group Intervention for Mothers and Children Experiencing Violence in Relationships (Connections; Breaking the Cycle, 2014) was designed to provide an opportunity for women to explore their past and present experiences of violence in relationships and to consider its potential impact on their parenting and their children's development though a holistic and integrated approach. Using trauma-informed and relational approaches, and delivered in the context of supportive community-based projects, Connections aims to increase mothers' capacity for and positive feelings surrounding themselves, their relationships, and their parenting. Connections is split into six main topics that cover concepts related to: awareness and understanding of healthy and unhealthy relationships; the intergenerational effects of unhealthy relationships; child development and behavior (and the impact of interpersonal violence on children); and building self-esteem and selfcompassion, both for mother and child (the Connections manual can be found at http://mothercraft.ca/index.php?q=ei-connections).

We partnered with community-based projects funded by the Public Health Agency of Canada's (PHAC) Community Action Program for Children (CAPC) and Canada Prenatal Nutrition Program (CPNP). In fulfilling their basic mandates, CAPC/CPNP projects provide a nonjudgmental, family focused, community-based, and culturally sensitive environment that effectively engages vulnerable families and children. As such, these community-based projects are well-positioned to identify and respond to issues of family violence and provide specific intervention services related to interpersonal violence.

The Current Study

Connections was developed within Breaking the Cycle, a CAPC/CPNP funded program that has been serving vulnerable families in Toronto for the past 24 years. Connections is part of a larger, overarching initiative called Building Connections: Supporting Community-Based Programs to Address Interpersonal Violence and Child Maltreatment, funded by PHAC's Supporting the Health of Victims of Domestic Violence Through Community Programs initiative. As part of the Building Connections initiative, staff from 21 community-based projects across Canada have been trained in trauma-informed and relational approaches and have

received specific training to implement Connections (Andrews, Pepler, & Motz, 2019; Andrews, Motz, & Pepler, 2020; Zuberi, Motz, Leslie, & Pepler, 2018). Our main goal is to present preliminary evaluation data for the national implementation of Connections. Specific aims were to: (a) describe the women who participated in *Connections*, (b) describe women's satisfaction with the intervention, and (c) assess whether women reported changes after participating in the intervention, in terms of their perceptions about themselves, their capacity for healthy relationships, their parenting, their knowledge of community services, and their understanding of relevant concepts. Specific outcome measures were selected based on their public health significance and links that have previously been found between these measures and health indicators including child maltreatment, incidence of interpersonal violence, and mental health (e.g., Lawson & Malnar, 2011; Papadakaki, Tzamalouka, Chatzifotiou, & Chliaoutakis, 2009; Proctor, Maltby, & Linley, 2011; Scott & Babcock, 2010). We expected that after Connections, mothers would report increased self-esteem, self-efficacy, and relationship capacity, decreased parenting stress, and increased knowledge of services and understanding of relevant concepts.

Method

Participants

As part of the larger Building Connections initiative, communitybased projects from across Canada were selected to attend training related to Connections (see Andrews, Motz, & Pepler, 2020 for details regarding site selection). As this is an ongoing initiative, the current study included data from projects trained between January 2017 and January 2018 that had delivered Connections between February 2017 and December 2018 (N = 18; 3 trained projects had not yet delivered Connections as of December 2018). Communitybased projects represented geographically diverse communities (from 7 provinces and 1 territory in Canada). Of the 18 sites, 4 were considered large urban population centers (population ≥100,000), 5 were considered medium population centers (population between 30,000–99,999), and 9 were considered small population centers (population $\leq 29,999$; Statistics Canada, 2019). Two service providers from each community-based project attended a three-and-a-half-day training (in 5 separate training groups) that included training on trauma-informed practice, delivering the intervention, and the research processes that accompanied the intervention. All service providers who attended successfully completed training and became Certified Connections Facilitators.

As part of the training, recruitment and group readiness was discussed. Facilitators received a list of screening questions to consider when recruiting participants, including whether the group content was right for the particular woman (i.e. did she have a history of violent or unhealthy relationships), could she engage with a group appropriately (e.g., maintaining others' confidentiality, sharing appropriately), and could mother and child separate without damaging their relationship, among others (see online supplemental materials for the full list). Facilitators recruited participants in their own communities using a variety of techniques, including posting flyers, sending information to community partners, and identifying potential participants from those already

involved in their community-based projects. Information posted in flyers or given to partners contained a short description of the intervention (identifying it as a group for mothers who had experienced violence in relationships) as well as the weekly topics. All potential participants met with facilitators to discuss the intervention and determine readiness to participate. Through this relational approach, the facilitator and participant together decided whether the intervention was a good fit (e.g., did the mother have current or historical experience of violence in relationships, and did she want support related to relationships and parenting). Those who were interested in attending *Connections* were informed of the research component of the initiative and asked to read and sign an informed consent form. No compensation was received for participating in the research; it was made clear to all participants that they could refuse to participate in the research yet still attend *Connections*.

In the 18 communities, Connections was delivered 35 times (group size ranged from 2 to 14 participants, M = 5.26, SD =2.38). Of the 18 community-based projects, 6 ran the intervention once, 8 ran the intervention twice, 3 ran the intervention three times, and 1 ran the intervention four times. Thus, the data are nested within each intervention group (see Data Analytic Plan for further explanation). Of the 195 mothers who agreed to participate, 184 attended at least one session (no women refused to participate in the research, though some opted not to complete some of the surveys). Of the 184 mothers who started *Connections*, 144 (78%) completed the intervention. One hundred and 37 women completed the survey at Time 1 (item level missing data ranged from 0-15.33% across measures), and N=131 women completed the survey at Time 2 (item level missing data ranged from 0–12.21%). Three women completed the intervention twice; only data from their first time in the intervention are included here. Demographic information for participants is presented in the results section.

Procedure

After the recruitment and screening process, women completed a series of questionnaires on a tablet computer (Time 1; T1), taking approximately half an hour to complete, with facilitators available to assist. All items included a "prefer not to answer" response option. At the end of each session of *Connections*, women were asked to complete a short survey regarding their satisfaction with the group that week (each intervention session lasted approximately 90 min and was held once per week). After the final intervention session (approximately 6–8 weeks later, Time 2; T2), women were asked to complete another series of questionnaires (similar to T1), again taking approximately half an hour to complete. To link women's responses over time, women entered an identification code (ID code) at the beginning of each survey consisting of a series of letters and numbers that was meaningful to the woman but nonidentifiable. All surveys were sent electronically from the tablet to the research team. Procedures were approved by York University's Ethics Review Board.

Measures

Satisfaction (weekly). At the end of the session each week, women were asked three questions about their satisfaction with: (a) the topic of the week's group, (b) the usefulness of the infor-

mation for their relationships and parenting, and (c) their feelings of being safe and supported. Items were rated on a 4-point scale from 1 = not at all satisfied to 4 = very satisfied.

Satisfaction (**T2**). Following the final *Connections* session, women reported on their overall satisfaction using an 8-item measure developed for this study. Items were rated on a 4-point scale from 1 = not at all satisfied to 4 = very satisfied (e.g., "How satisfied are you with . . . the extent to which the information helped you think differently about healthy relationships," ". . . the amount of information you received about parenting," ". . . the *Connections* intervention overall."). Responses were averaged to create a satisfaction score ($\alpha = .91$).

Self-esteem. Before and after the intervention (T1 and T2), self-esteem was measured using the Rosenberg Self Esteem Scale (Rosenberg, 1979). Participants answered 10 items related to positive and negative feelings about the self (e.g., "I am satisfied with myself") on a 4-point scale from $1 = strongly\ disagree$ to $4 = strongly\ agree$ (5 items were reverse coded). Responses were averaged to create a total self-esteem score ($\alpha_{\rm T1} = .89, \alpha_{\rm T2} = .88$).

Self-efficacy. At T1 and T2, self-efficacy was measured using an 8-item scale (Chen, Gully, & Eden, 2001). Items assessed participants' beliefs that they were able to successfully accomplish certain tasks/goals (e.g., I will be able to achieve most of the goals that I have set for myself). Items were rated on a 5-point scale from $1 = strongly \ disagree$ to $5 = strongly \ agree$. Responses averaged to create a total self-efficacy score ($\alpha_{T1} = .90$, $\alpha_{T2} = .93$).

Relationship capacity. The Adult Attachment Scale was used to assess mothers' relationship capacity (Collins & Read, 1990), at T1 and T2. This is an 18-item scale consisting of three subscales (6 items each): one's ability to feel close to others in relationships (e.g., "I find it relatively easy to get close to others"), one's ability to depend on others (e.g., "I know that people will be there when I need them"), and one's anxiety in relationships (e.g., "I often wonder whether romantic partners really care about me"). Items were rated on a 5-point scale from 1 = not at all like me to 5 = very much like me (7 items were reverse coded). Responses to each of the 3 subscales were averaged to create total scores for closeness, depend, and anxiety ($\alpha s_{T1} = .67$, .72, and .88; $\alpha s_{T2} = .68$, .74, .89, respectively).

Parenting stress. The Parental Stress Index (PSI; short form, fourth edition; Abidin, 2012) is a 36-item scale comprising three subscales (only the total score was examined for the purposes of this study). The items in the PSI assess mother's stress with respect to her parenting role, mother's perceptions of the quality of and satisfaction with her interactions with her child, and the behavioral characteristics of the child that may lead parents to perceive them as difficult to manage. Mothers were asked to consider their youngest child when responding. Items were rated on a 5-point scale from $1 = strongly \ disagree$ to $5 = strongly \ agree$. A parenting stress total score was calculated by summing all items and converting the score to a standardized percentile score ($\alpha_{\rm T1} = .94$, $\alpha_{\rm T2} = .96$).

Knowledge of services. The extent to which participants had knowledge of and felt connected to community services was measured using a 7-item measure (adapted from Centre for Research and Education in Human Services, 2005). Items were rated on a 5-point scale from 1 = strongly disagree to 5 = strongly agree (e.g., "I feel connected with programs I can use;" "I am able to get help from other organizations and agencies"). Items were

averaged to create a total score for knowledge of services ($\alpha_{\rm TI}$ = .78, $\alpha_{\rm T2}$ = .86).

Understanding of *Connections* concepts. Women completed a 9-item measure assessing their knowledge and understanding of the relation between interpersonal violence, self-esteem, parenting ability, and child development, adapted from a previous evaluation of *Connections* (Motz, Espinet, Racine, & Pepler, 2009). Items were rated on a 4-point scale from 1 = strongly disagree to 4 = strongly agree (e.g., "Unhealthy relationships between parents can affect a child's development, even if they do not witness violence"). Items were averaged to create a total score for understanding of *Connections* concepts ($\alpha_{T1} = .63$, $\alpha_{T2} = .68$).

Data Analytic Plan

Data were nested within intervention group (N=35): Participants may be more similar to others within their intervention group than in a different group, due to being embedded in the same community-based project, with the same facilitators, and with the same group dynamics. To address Aim 1, frequencies of sociodemographic characteristics were computed. To address Aim 2, descriptive statistics were examined for satisfaction, both weekly and following the intervention. Intraclass correlations (ICCs) indicated that the extent of nesting for satisfaction variables was negligible (approximately 1% across all satisfaction variables). Despite this, descriptive information was calculated in Mplus 8.3 using TYPE = COMPLEX, which accounts for nesting at Level 2 (intervention group), while examining descriptive information at Level 1 (individual). Robust maximum likelihood (MLR) estimation was used to address missing data.

For Aim 3, data were nested at three levels: repeated measures (Level 1), collected across participants (Level 2), nested within intervention group (Level 3). ICCs indicated that between 34 and 68% of variance in outcome variables was due to nesting at Level 2, and between 4 and 19% was due to nesting at Level 3. We used multilevel modeling procedures (TYPE = THREELEVEL) in Mplus 8.3 to account for the nested structure of the data, again using MLR estimation. Models were specified separately for each outcome variable (note that we did run a final model with all variables in the model together, and results remained virtually identical). Because the effect of interest was change in outcome scores between T1 and T2, linear random intercept models were specified, which included the effect of time on the outcome variable at Level 1, and variance of the outcome variable on Level 2 and Level 3 (as well as the Level 1 residual variance).

Given the lack of a true comparison group, we conducted follow-up analyses using a static group comparison. Due to the extended nature of the initiative, community sites delivered the intervention based on their own scheduling, over the course of two years. Each intervention delivery lasted approximately 6-8 weeks. Thus, we created a quasi-experimental comparison group by matching intervention groups based on their start date (e.g., a group beginning the intervention in September was categorized as cohort 1 and was matched with a group beginning the intervention approximately 2 months; cohort 2). This process resulted in 18 intervention groups categorized as cohort 1 and 17 as cohort 2. Matched pairs (averaging start date across all individuals in each group) differed in their start date by an average of 2.01 months, SD = 1.00. We ran a model using TYPE = COMPLEX to account

for the nested structure of the data (using intervention group as the nesting variable) that included all outcome variables and used the cohort indicator as a predictor. All outcome variables were allowed to correlate with one another. This allowed us to compare the T2 score on each variable from cohort 1 (after finishing the intervention) to the T1 score on each variable from cohort 2 (before starting the intervention); measures that were collected at approximately the same time.

Results

Aim 1: Who Participated in Connections?

Sociodemographic characteristics were examined for women who participated in *Connections*. Women were asked whether they had previously received support or counseling related to interpersonal violence and healthy relationships; 66% reported they had (5% preferred not to answer). Women reported their ages as between 18 and 71, with a mean age of 30.21 years (SD=8.17) years). The large majority of women were born in Canada (93%) and reported English as their preferred language (98%); see Table 1). Most spoke English at home (87%), while many others spoke a mix of English and another language (7%); including French, Spanish, Portuguese, Ojibwe, and Inuktitut). Women were asked to identify their ethnic heritage (women were invited to select more than one option; 26 women did so). Women reported their ethnic heritage primarily as North American, Indigenous, and/or European.

Most women (73%) had completed high school (see Table 1). Sixteen percent had some trade or technical education, and 55% had some postsecondary education (including university or community college). Most women were not currently employed (74%). As expected, women's source of income was varied, the most prevalent being social assistance, disability benefits, maternity/child tax benefits, or some combination of those. Women's income varied, but the majority (53%) reported a gross income of less than \$1,500/month (\$18,000/year).

Women's living situations varied, with many living in a house, apartment, or shelter (see Table 1). Most women were single (46%) or married/common law (32%). Almost half of women lived with only their child or children (46%), and women had between 1 and 6 children (M = 2.26 children, SD = 1.24). Children's ages ranged from less than 1 month to 32 years old (M = 6.45 years, SD = 6.25; there were 9 participants who participated who had children over the age of 18; only one woman did not have at least one other child aged 18 or younger).

Of the 195 women who participated in this study, 144 (74%) completed *Connections* (were present at both the beginning and end of the intervention, even if they may have missed one or more sessions). Women who completed *Connections* were compared to those who did not on demographic variables, using t tests and cross tabulations (examining chi-squared tests and standardized residuals greater than \pm 2). No differences were found, with the following exceptions: There were more noncompleters than expected with a Grade 9 education (standardized residual = 2.0; χ^2 [9] = 17.78, p = .04), with income less than \$400/month (standardized residual = 2.1; χ^2 [5] = 17.02, p = .03), and with no stable housing (standardized residual = 2.3; χ^2 [5] = 16.79, p = .005).

Table 1
Demographic Characteristics of Women Who Completed Connections

Demographic categories	Response option	
Country of birth	Canada	93
•	Other (USA, Mexico, Eritrea, Nigeria, Sudan, Brazil, China)	7
Preferred language	English	98
	Other (Arabic, Mandarin)	2
Language spoken at home	English	87
	English + another language	7
	Other (Arabic, Mandarin, American Sign Language, Cowichan)	5
	Prefer Not to Answer	1
Ethnic heritage	North American	63
	Indigenous	24
	European	20
	Other (African, S American, SE Asian, Caribbean, Middle Eastern, E Asian)	14
	Prefer not to answer	4
Highest school grade completed	Less than grade 12	24
	Grade 12	73
	Other	3
Employment status	Not currently employed	74
	Part-time/full time employment	21
	Prefer not to answer	5
Source of income	Social assistance	34
	Disability benefits	19
	Maternity or child tax benefits	10
	Combination of the 3 above	7
	Work	15
	Other (Partner, combination of partner/work and above, other)	11
	Prefer not to answer	4
Gross monthly income	<\$800	14
	\$800-\$1,500	39
	\$1,500–\$3,000	32
	>\$3,000	7
TT	Prefer not to answer	8
Housing status	House	43
	Apartment	37
	Other (shelter/supportive housing, no stable housing, other)	18
Manital atatua	Prefer not to answer	2 46
Marital status	Single Married/common law	32
		16
	Other (separated/divorced, widowed, other) Prefer not to answer	6
Living situation	With child(ren)	46
Living situation	With partner and child(ren)	28
	Other (family/friends + child[ren], alone, shared, partner + no child[ren])	24
	Prefer not to answer	24

Note. Ethnic heritage does not add to 100% because women could select more than one option. Some categories are collapsed to protect participant confidentiality.

Aim 2: How Satisfied Were Mothers Who Completed *Connections*?

Women reported their satisfaction after every session and following the final session on a four-point scale. Regarding the weekly topic, women reported satisfaction between 3.74 and 3.93 across sessions (Min = 1.00, Max = 4.00, SDs = .28 to .51). Satisfaction regarding the usefulness of the information for their relationships and parenting was between 3.68 and 3.93 (Min = 1.00, Max = 4.00, SDs = .29 to .58), and satisfaction with feeling safe and supported was between 3.82 and 3.94 (Min = 1.00, Max = 4.00, SDs = .26 to .48). Following the final session, women reported high overall satisfaction, as expected (M = 3.88, Min = 2.38, Max = 4.00, SD = .28).

Aim 3: Did Mothers Who Attended *Connections* Change?

To assess changes before versus after the intervention, three-level linear random intercept models (one for each outcome variable) were specified as described above. Results supported hypotheses, indicating that women reported higher self-esteem and self-efficacy at T2 than T1, accounting for the effects of nesting within individual and intervention group (see Table 2 for means, standard deviations, model estimates and standardized estimates). Women reported feeling more closeness in relationships, higher ability to depend on others in relationships, and lower anxiety in relationships at T2 than T1. Women reported lower overall parenting stress, higher knowledge of services, and a greater under-

Table 2
Descriptive Statistics and Multilevel Model Results (Linear Random Intercept Models of Time Predicting Each Study Variable)

	$\frac{\text{Before } Connections (T1)}{M (SD)}$	$\frac{\text{After Connections (T2)}}{M (SD)}$	b	β	f^2
Study variables					
Self-esteem	2.62 (.65)	2.97 (.61)	.35***	.42	.18
Self-efficacy	3.83 (.77)	4.25 (.67)	.40***	.36	.13
Relationship capacity	. ,				
Closeness	2.86 (.82)	3.00 (.78)	.13**	.15	.02
Depend on others	2.63 (.75)	2.74 (.65)	.12**	.15	.02
Anxiety in relationships	3.57 (1.07)	3.38 (1.05)	19^{*}	14	.02
Parenting stress total score	60.53 (26.86)	54.65 (27.25)	-5.24*	16	.03
Knowledge of services	4.03 (.60)	4.35 (.56)	.33***	.38	.14
Understanding of Connections concepts	3.47 (.37)	3.64 (.32)	.17***	.32	.10

Note. Self-esteem and understanding of Connections concepts are measured on a 1–4 scale. Self-efficacy, relationship capacity, and knowledge of services are measured on a 1–5 scale. Parenting stress is a percentile score (1–99). In the multilevel model, b/β estimates represent the Level 1 fixed effect of time on the outcome variable (a positive b/β indicates increases across time and a negative b/β indicates decreases across time). f^2 .02 = small, .15 = medium, .35 = large effect size.

standing of *Connections* concepts at T2 than T1. As recommended for fixed effects, f^2 effect sizes were calculated for each variable to determine the magnitude of the effect (interpreted as the proportion of variance explained by the linear effect of time, relative to the proportion of outcome variance unexplained; Aiken & West, 1991; Lorah, 2018). Effect sizes ranged from .02 to .18, representing small to medium effects.

Results from the static group comparisons indicated that cohort group significantly predicted self-esteem (b=.25, $\beta=.20$, p=.04), self-efficacy (b=.34, $\beta=.23$, p=.005), knowledge of services (b=.22, $\beta=.18$, p=.01), and understanding of *Connections* constructs (b=.21, $\beta=.29$, p<.001), such that women who completed *Connections* had more positive scores on these variables than women who had not started *Connections*, at approximately the same time point. Relationship capacity (closeness: b=-.11, $\beta=-.06$, p=.40; depend on others: b=-.05, $\beta=-.03$, p=.72; anxiety in relationships: b=-.19, $\beta=-.09$, p=.31) and parenting stress (b=-4.33, $\beta=-.08$, p=.47) were not significantly predicted by cohort. See Table 3 for means and standard deviations separated by cohort.

Discussion

This study provides preliminary support for the national implementation of *Connections*. As part of the Building Connections initiative, trained service providers from 18 communities across Canada were successfully able to connect with vulnerable families (though there was variability in sociodemographic characteristics), including engaging mothers across weekly intervention sessions and promoting continued attendance. The majority of women were able to complete *Connections* and those who completed reported very high levels of satisfaction, both weekly and as a whole. Based on pre- and posttest data, women indicated significant improvement in all areas. Adding a between-subjects comparison increases confidence in our analyses and preliminary intervention effects, particularly for self-esteem, self-efficacy, knowledge of community services, and understanding of relevant concepts, but also suggest that findings for relationship capacity and parenting stress be treated with caution.

Sustaining Engagement of Vulnerable Families

Families experiencing violence in relationships often (though not always) experience numerous challenges, including poverty, housing issues, substance use, and mental health difficulties (Mason, Wolf, O'Rinn, & Ene, 2017). Findings confirmed that *Connections* sustained engagement of vulnerable families. Almost a third of intervention participants had not completed high school, 74% were not currently employed, 70% relied on social assistance, disability benefits, maternity/child tax benefits, or some combination of these as their source of income, and most women reported annual income of less than \$18,000. The majority of women had some previous counseling support in terms of interpersonal violence or healthy relationships.

There was also variability across sociodemographic characteristics. Just over half of women had completed some postsecondary

Table 3
Means and Standard Deviations by Cohort Group

	Cohort 1	Cohort 2	
Study variables	M (SD)	M (SD)	
Self-esteem	2.91 ^a (.57)	2.66 ^a (.65)	
Self-efficacy	4.20^{b} (.69)	$3.85^{b}(.79)$	
Relationship capacity			
Closeness	2.87 (.79)	2.98 (.91)	
Depend on others	2.67 (.59)	2.71 (.78)	
Anxiety in relationships	3.42 (1.02)	3.61 (1.17)	
Parenting stress total score	57.39 (27.46)	60.86 (28.47)	
Knowledge of services	4.25 ^a (.58)	4.05^{a} (.60)	
Understanding of Connections concepts	3.65° (.30)	3.45° (.39)	

Note. Intervention groups are matched based on approximate time of *Connections* delivery, with Cohort 2 starting delivery approximately two months after Cohort 1. Cohort 1 uses T2 outcome scores. Cohort 2 uses T1 outcome scores. Self-esteem and understanding of *Connections* concepts are measured on a 1–4 scale. Self-efficacy, relationship capacity, and knowledge of services are measured on a 1–5 scale. Parenting stress is a percentile score (1–99).

 $^{\hat{a}}$ Means within the same row differ at p < .05. b Means within the same row differ at p < .01. c Means within the same row differ at p < .001.

^{*} p < .05. ** p < .01. *** p < .001.

education. Most women lived in a house or apartment (as opposed to a shelter or lacking stable housing). Women varied greatly in age, from 18- to 71-years old, and were heterogeneous in both marital status and living situation. Though the majority identified their ethnic heritage as North American, Indigenous, or European, there were women from a variety of ethnic backgrounds. This diversity reflects the fact that interpersonal violence can affect women of all backgrounds, income levels, ages, and so forth (e.g., Haselschwerdt & Hardesty, 2017). Participant diversity also suggests that the community-based approach to intervention delivery appears to be successful in reaching a wide range of families impacted by violence. These community-based projects had already been successful in providing child development and parenting programming to families in the community, and seem to be additionally able to offer interpersonal violence programming.

Feasibility and Acceptability

There was a high intervention completion rate: 78% of women who started were able to complete the intervention. Retention of high-risk families with experiences of interpersonal violence both in service and research is a challenge (e.g., Schnirer & Stack-Cutler, 2012). Women may be dealing with safety issues (e.g., abusive partners) and coping with traumatic reactions to past or present violence and abuse. They may be making difficult transitions and changes in their lives either of their own accord or due to changes mandated by child welfare. These factors exacerbate the challenges of retaining high-risk families in intervention and research (Schnirer & Stack-Cutler, 2012). These challenges underscore the importance of adopting trauma-informed and relational approaches to both intervention and research. For instance, considering the many challenges these women may be facing, it is important for intervention facilitators to avoid retraumatization and promote women's autonomy and empowerment (Leslie et al., 2016). Providing safe spaces for mothers to reflect on their experiences and learn about themselves, their relationships, and their parenting is necessary (e.g., Macy et al., 2012). Connections asks mothers to consider the ways in which their own past experiences may be impacting their current relationships, behavior, and parenting. Interpersonal violence can be an intergenerational challenge (Widom et al., 2014), and future work could continue to understand how cycles of violence perpetuate across generations, further improving our ability to locate points of intervention to break the cycles. Further, adopting a relational approach, such that facilitators consciously and deliberately focus on promoting positive relationships (between facilitators and women, as well as among women) may be what supports women's continued engagement, by fostering connection, trust, and openness (e.g., Ragavan, Bruce, et al., 2018). Creating a safe and welcoming community with other women who have had similar experiences may encourage women to engage in services long-term (Howell et al., 2015; Macy et al., 2012). Indeed, we found that women were very highly satisfied (weekly and overall).

Vulnerability was especially evident for women who were not able to complete *Connections*. They were more likely than completers to have only a Grade 9 education, to have income less than \$400/month, and to have no stable housing. It may be that these women are the most unstable and transient, and therefore the most difficult to engage in extended service. Perhaps these women need

a different level of basic support that first enables them to stabilize their current situation. Despite the danger of interpersonal violence, the most pressing concerns for these women may be obtaining basic needs, such as stable housing and food security. Gaining a better understanding of how to support marginalized women with complex basic needs and stability concerns is an important area for future research. That is, though the high completion rate is encouraging, it remains important to continue working toward engaging even the most marginalized women in communities.

Changes in Key Areas After Participating in *Connections*

Evaluation results are very positive in terms of showing that women improved across all areas after, compared to before, participating in *Connections*. The key components of the intervention target women's sense of self (e.g., self-esteem, self-compassion), relationships (understanding healthy and unhealthy relationships), and parenting (the impact of interpersonal violence on children, supporting positive parenting and children's self-esteem). Results indicated that women showed improvements in all three categories. These results are critical, given that links are consistently found between these constructs (self-esteem, self-efficacy, relationship capacity, and parenting stress) and indicators of health that include child maltreatment, intimate partner violence, PTSD symptoms, and quality of life (Lawson & Malnar, 2011; Papadakaki et al., 2009; Proctor et al., 2011; Scott & Babcock, 2010). Women also showed increased understanding of relevant Connections concepts, suggesting that these key messages were becoming embedded into women's knowledge of themselves, their relationships, and their children. Effect sizes ranged from small to medium, indicating substantial practical importance, particularly for a short-term, low cost intervention (though it also indicates that more change in these areas is certainly possible and desired). Given the nature of the study design, it may be that women showed improvement simply due to time passing. Additional analyses, however, indicated that this is less likely to be the case, at least for self-esteem, self-efficacy, knowledge of services, and understanding of intervention concepts. That is, women who had just completed the intervention had significantly higher scores on these outcomes compared to women who had not received the intervention (at approximately the same time point), which helps to account for validity threats related to maturation. There are only a few other community-based interventions for interpersonal violence that combine a focus on parenting with components such as mental health, self-care, and relationship capacity (see Ragavan, Thomas, et al., 2019), and none systematically evaluate all three components relating to the self, relationships, and parenting (though all highlight the importance of including and integrating these distinct components; Galano et al., 2017; Macy et al., 2012; Ragavan, Bruce, et al., 2018). Thus, the improvements in all three areas over the course of the intervention is extremely promising.

Women also reported increased knowledge of and confidence in accessing community services after, compared to before, participating in *Connections*. Given that these families are often involved in multiple service sectors and may need many additional services to support their continued success (e.g., access to women's shelters, trauma counseling, addictions treatment, children's mental health services), it is advantageous for women to know about and

feel confident in accessing these supports. Using community-based projects as an entry point to accessing other services is effective (Hackett et al., 2016; Ragavan, Bruce, et al., 2018), and the community-based projects in the present study seem to have been able to sustain involvement of vulnerable families. Importantly, community-based projects are generally well-connected to other services in the community (Galano et al., 2017; Macy et al., 2012). Community relationships and partnerships were considered as a readiness component for selecting community-based projects (see Andrews et al., 2020). Further, as part of their involvement in the Building Connections initiative (e.g., during training), facilitators discussed community partnerships and how they could improve their relationships with other services in the community. Facilitators in these community-based projects were in the position to support women seeking additional services (e.g., making referrals, offering information about other services in the community). This is an important aspect of participating in Connections, even if community engagement is not explicitly discussed in the content of the intervention.

Limitations and Future Research

As a preliminary step in the process of evaluating the national implementation of an interpersonal violence intervention, this study employed a prepost evaluation design. It was important to understand whether and how this intervention supported women experiencing violence in relationships in communities across Canada before moving forward with more rigorous evaluation designs (e.g., randomized control or waitlist design). This design choice limits conclusions regarding causality. In addition to the issues of maturation, described above, women may have been involved in other services outside of Connections that contributed to improvements over time. Given that vulnerable families often require support across many domains, the community-based projects may have been able to connect women participating in Connections to other community services through well-established collaborative relationships. Indeed, Connections was designed to be delivered concurrently with other interventions for mothers and their young children (specifically, the range of services offered in CAPC/ CPNP projects). Yet, this adds significant complexity and limits our conclusions about the effectiveness of Connections independent of other interventions, supports, or services. There also may have been selection bias, such that women who were most likely to improve were the ones who volunteered to participate. In fact, because of the carefully considered readiness criteria, results may appear more positive than they would otherwise, had women who were not "ready" for the intervention been permitted to join. However, considering readiness is an essential part of the intervention process. If a woman is struggling with untreated mental health issues or at risk for relapse into substance use without relapse prevention and coping strategies, participating in Connections may simply be unsafe, both for the woman and for others in the group. Importantly, facilitators can work with women to provide stabilization and support, so that they are able to successfully participate in Connections at a later time, once readiness considerations are met. Allowing for this type of flexibility in making adaptations to the intervention process was vital for the safety of facilitators and participants.

Due to design constraints, there are several threats to internal validity; however, this research serves as a starting place to understand the impact of *Connections*. As demand for participation in *Connections* increases beyond facilitator capacity, community-based projects may be able to employ a waitlist control design, providing a stronger test of the intervention. Alternatively, communities could be randomly selected to participate in the initiative and deliver the intervention, though there are many ethical and practical challenges associated with these alternate forms of evaluation. In the future, we will also focus on understanding the mechanisms at play in *Connections*. Through qualitative analysis, we will gain a better understanding of women's specific experiences in the intervention, which may provide support for causal attributions.

Connections contains information about the impact of interpersonal violence on parenting, child development, and how to support a positive mother-child relationship, and as such, has important implications for the identification and reduction of child maltreatment. The intervention does not, however, directly involve children. Childminding was available for mothers with children in their care, which was critical in delivering *Connections* because mothers needed a supportive space where they could reflect on and discuss their experiences of trauma and violence—issues that are not appropriate for children to overhear. Given the detrimental consequences of interpersonal violence for children, however, it is important to consider additional service components for vulnerable families. These might include support or counseling for children who have experienced interpersonal violence (including witnessing violence between parents or experiencing child maltreatment), as well as a dyadic component to promote the parent-child relationship. Results suggest that Connections may be associated with improvements in mothers' capacity for relationships and parenting; yet, in light of the complex array of challenges faced by women experiencing interpersonal violence, there are limitations to an intervention that lasts only 6-8 weeks. Additional services are needed to fully support families experiencing violence in relationships. It is because of this that we highlight the necessity to deliver the intervention in the context of a range of other supports and services.

Implications and Conclusions

The current study has implications for an understanding of intervention services for families experiencing interpersonal violence (including emotional, physical, and sexual abuse, among others). We have demonstrated preliminary support for the national implementation of an interpersonal violence intervention through community-based projects, complementing other papers written in support of this initiative (Andrews et al., 2019, 2020; Zuberi et al., 2018). In the current study, we found that: vulnerable and diverse women could be reached through community-based projects centered around parent-child programming; that this intervention was feasible, with a high level of intervention completion; and that community-based facilitators could deliver the intervention in a way that left women highly satisfied. Further, we found preliminary support for changes in women's understanding of interpersonal violence, as well as their attitudes and behaviors particularly related to their self-esteem and self-efficacy. These initial positive results support the importance of this national implementation initiative, though future research is needed to further examine changes over time and explore differences in implementation across different communities.

Lastly, findings that women increased in their knowledge and comfort accessing community supports lend credence to the important role that community-based projects with services for parents and young children can play in sustaining engagement with hard-to-reach populations, providing safe and welcoming environments, and acting as an entry point for connecting families to other services and supports in the community (Galano et al., 2017; Macy et al., 2012). Families experiencing interpersonal violence and child maltreatment often require wrap-around services and supports, including housing, legal support, mental health services, and child development services. Integrating these services in the community is necessary to foster healthy children, families, and communities.

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