



## Psychosocial interventions in schools with newcomers: A structured conceptualization of system, design, and individual needs

Claire V. Crooks<sup>a,\*</sup>, Alexandra C.G. Smith<sup>a</sup>, Natasha Robinson-Link<sup>b</sup>, Shawn Orenstein<sup>c</sup>, Sharon Hoover<sup>c</sup>

<sup>a</sup> Centre for School Mental Health, Faculty of Education, Western University, Canada

<sup>b</sup> Department of Psychology, University of Maryland Baltimore County, United States

<sup>c</sup> University of Maryland School of Medicine, Division of Child and Adolescent Psychiatry, United States



### ARTICLE INFO

#### Keywords:

Program development  
Refugees  
Resilience  
Group concept mapping  
Implementation

### ABSTRACT

Canada has recently welcomed an influx of refugees, many of whom experienced significant trauma and adversity before coming to Canada or during migration. Thousands of newcomer children and youth are now in Canadian schools, and many continue to struggle with symptoms of distress and trauma. During the spring of 2018, a pilot was conducted in two large Ontario school districts to evaluate the feasibility of a new 10-week manualized intervention (Supporting Transition Resilience of Newcomer Groups [STRONG]) developed to promote resilience and reduce distress among young newcomers. In the current study, stakeholders involved in the pilot (i.e., mental health clinicians, mental health leaders, developers of the STRONG program, and the evaluation team) participated in an online Group Concept Mapping (GCM) activity to document the groups' collective wisdom about developing and implementing appropriate programming for newcomer children and youth. Twenty-three stakeholders generated a list of considerations related to designing, implementing, and facilitating programs to promote resilience among newcomer children and youth, producing a total of 71 statements. Eighteen stakeholders then sorted the list of statements into meaningful categories. Through multidimensional scaling and hierarchical cluster analysis we identified five clusters of important considerations: (1) engage family and community; (2) take a whole school approach; (3) attend to group composition and setting; (4) make material accessible and age-appropriate; and, (5) address unique clinical issues. Theoretically, these clusters highlight the importance of considering individual needs, system considerations, and design considerations. Attention to these concepts will specifically help inform future iterations of the STRONG intervention. More broadly, these results identify important factors to consider for addressing the needs of newcomer children and youth in school settings.

### 1. Introduction

Currently, there is an unprecedented number of displaced people worldwide; there are 25.4 million refugees, and over half of them are under 18 (United Nations High Commissioner for Refugees [UNHCR], 2018). Though developing nations host 85% of the world's displaced people (UNHCR, 2018), immigrants and refugees constitute an increasing portion of the population in developed nations. In Canada, for example, 21.9% of the population is foreign-born, and more than 1.2 million new immigrants settled from 2011 to 2016 (Statistics Canada, 2017). According to Immigration, Refugees and Citizenship Canada, between January 2015 and March 2018, nearly 100,000 refugees resettled in Canada, and among them, 42.7% were 17 years old and

younger (The Child and Youth Refugee Research Coalition, 2018). This influx of newcomer children and youth, many of whom have experienced multiple adversities and trauma, has underscored the need to quickly develop an evidence base about the design and implementation of effective supports.

The majority of refugee children and youth possess strengths and experiences that build resilience, which can contribute to improved psychological functioning following trauma (Murray, Cohen, Ellis, & Mannarino, 2008; Sullivan & Simonson, 2016). Nevertheless, refugee youth are at increased risk for mental health issues due to their exposure to trauma and other adversities throughout migration (Durà-Vilà, Klasen, Makatini, Rahini, & Hodes, 2013; Fazel, Doll, & Stein, 2009; Lustig et al., 2004; Miller & Rasmussen, 2017). Stressors and

\* Corresponding author at: Centre for School Mental Health, Western University, 1137 Western Road, London, ON N6G 1G7, Canada.  
E-mail address: [ccrooks@uwo.ca](mailto:ccrooks@uwo.ca) (C.V. Crooks).

trauma before and during migration include violence exposure, separation from and loss of family members and friends, lack of basic needs, and lengthy stays in detention centers (Lustig et al., 2004; Sirin & Rogers-Sirin, 2015; Sullivan & Simonson, 2016). After resettling, refugee children and youth face stressors such as the loss of homeland, family, friends, and material possessions, acculturation, and exposure to community violence (Bronstein & Montgomery, 2011; Kirmayer et al., 2011; Lustig et al., 2004).

Linking refugee children and youth to supports that address both immediate psychosocial needs and pre-migration trauma is an essential component of positive adjustment. However, there are several barriers to accessing care, such as stigma, language differences, lack of transportation, and limited contact with the mental health care system (Marshall, Butler, Racho, Cumming, & Taknit, 2016). Interventions should be embedded into existing infrastructures to increase access to and decrease stigma associated with mental health care (Brymer, Steinberg, Sornborger, Layne, & Pynoos, 2008). Schools serve as an ideal setting for the implementation of interventions, given they often are the first service system available to refugees and are accessible to refugees and their families (Fazel, Garcia, & Stein, 2016; Kia-Keating & Ellis, 2007; Sullivan & Simonson, 2016; Tyrer & Fazel, 2014). Further, schools offer an environment for the early identification of distress and concerning behavior (Fazel et al., 2016; Kia-Keating & Ellis, 2007; Sullivan & Simonson, 2016; Tyrer & Fazel, 2014).

Though schools serve as an ideal setting to address the mental health needs of youth, relatively few studies have explored and evaluated the development and implementation of evidence-based practices intended to enhance the mental health of young refugees (Eruyar, Huemer, & Vostanis, 2018; Sullivan & Simonson, 2016). Of the research that has been conducted, interventions with cognitive behavioral therapy (CBT) principles have demonstrated the most consistent positive impact, including improving functioning and decreasing negative outcomes such as post-traumatic stress and depressive symptoms, and stress (Ehnholt, Smith, & Yule, 2005; Enholt & Yule, 2006; Fox, Rossetti, Burns, & Popovich, 2005; Kataoka et al., 2003; Murray et al., 2008; Schottelkorb, Doumas, & Garcia, 2012).

There are unique considerations for the development and implementation of interventions to support refugee and immigrant youth in schools. Refugee youth may need to navigate multiple systems of supports, including legal (e.g., procurement of documentation), occupational (e.g., job training for parents), educational (e.g., transition to a new school), social (e.g., navigation of peer relationships), and individual (e.g., address psychosocial needs). Accordingly, practitioners advocate for the integration of case management, management of resettlement stressors, and mental health support within existing systems (Birman et al., 2008; Brymer et al., 2008; Ellis et al., 2013; Murray et al., 2008). Engaging caregivers by building on their strengths and dispelling myths of mental health is another important design and implementation consideration (Murray et al., 2008; Refugee Trauma Task Force, 2005; Weine et al., 2003; Weine et al., 2008).

Research also suggests the content of interventions should incorporate processing of the migration journey and any traumas or adversities, CBT principles, meditation and relaxation exercises, and creative methods (Beehler, Birman, & Campbell, 2012; Birman et al., 2008; Murray et al., 2008; Ruf et al., 2010). Prior work on school-based interventions for immigrants points to the value of creating groups with students from the same country and ethnic background, using a co-leader for groups with more than five students, and selecting students based on their adjustment to the language and culture (Ehnholt et al., 2005).

In line with these considerations, a multidisciplinary team of researchers and practitioners developed and implemented Supporting Transition Resilience of Newcomer Groups (STRONG), an evidence-informed, school-based intervention for newcomer youth experiencing psychological distress. The STRONG program includes ten group sessions, one individual session with each student, and teacher and parent

education sessions (Hoover, Bostic, Orenstein, & Robinson-Link, 2019). Core components include resilience-building skills, understanding and normalizing distress, cognitive behavioral intervention skills (i.e., relaxation, cognitive coping, exposure, goal setting, problem-solving), a journey narrative, and peer, parent, and educator engagement. There are two STRONG manuals; one for primary students (ages 5–12) and the other for secondary students (ages 13–18). The program has been piloted in ten schools by school social workers and psychologists and has been found to be both feasible and acceptable (Crooks, Hoover, & Smith, 2020).

There are additional issues to consider for school-based intervention, beyond the content of the manual. Domitrovich and colleagues (2008) have proposed a model of understanding the implementation of school-based programs within a framework that includes the individual, school, and macro levels. This ecological model identifies important additional influences for program success beyond program content. The rise of implementation science has underscored the importance of implementation consideration for achieving successful program outcomes (Durlak & DuPre, 2008). This paper used group concept mapping (GCM) to capture development and implementation considerations for school-based psychosocial interventions for immigrant and refugee youth, leveraging the collective expertise of program developers, as well as practitioners and researchers who work with immigrant and refugee youth to identify key consideration factors for others undertaking similar work.

Group concept mapping (GCM) is a stakeholder-driven, mixed methods research approach that provides visual representations of ideas or concepts (Trochim, 1989). This multiphase method applies quantitative analytical techniques to qualitative data, and produces interrelated maps that organize a group's ideas on a particular topic and presents how the ideas are related to each other (Kane & Trochim, 2007; Trochim, 1989). In the first phase of concept mapping, participants generate ideas in response to a focus prompt that is defined by the researcher. During the second participatory phase, participants individually sort the generated ideas into thematically similar groups and assign a name to each group. Following this, the researcher applies multidimensional scaling to the data to create a two-dimensional data point map that represents the relationships between the generated ideas and hierarchical cluster analysis to identify key clusters.

GCM is effective for program planning and evaluation in the mental health field, offering rich insight into participants' opinions and beliefs through a structured process, while also offering statistical rigor (Burke et al., 2005; Johnsen, Biegel, & Shafran, 2000; Kane & Trochim, 2007). Furthermore, this participatory methodology enables researchers to capture the collective perspectives on a topic and allows for multiple groups of stakeholders to contribute to the conceptual framework (Trochim, 1989). GCM has been used by several investigators as a mechanism for engaging stakeholders in intervention development, including those focused on children and health interventions (Kelly, Baker, Brownson, & Schootman, 2007; Snider, Kirst, Abubakar, Ahmad, & Nathens, 2010; Vaughn, Jacquez, & McLinden, 2013). Given these advantages, we considered group concept mapping to be an ideal approach for capturing development and implementation considerations for school-based psychosocial interventions.

## 2. Methods/Participants

The data were collected using a purposive group of adults who were involved in the development, implementation, and evaluation of a school-based resilience program for refugee children and youth (i.e., program developers, mental health clinicians, mental health leaders, and researchers evaluating the program). Across these stakeholder groups, 26 individuals were invited to participate. Of those who participated in one or both phases of the GCM, all identified as female, and the mean age was 43.9 years ( $SD = 8.7$  years). With respect to roles, 54% of respondents were school mental health clinicians, either at the

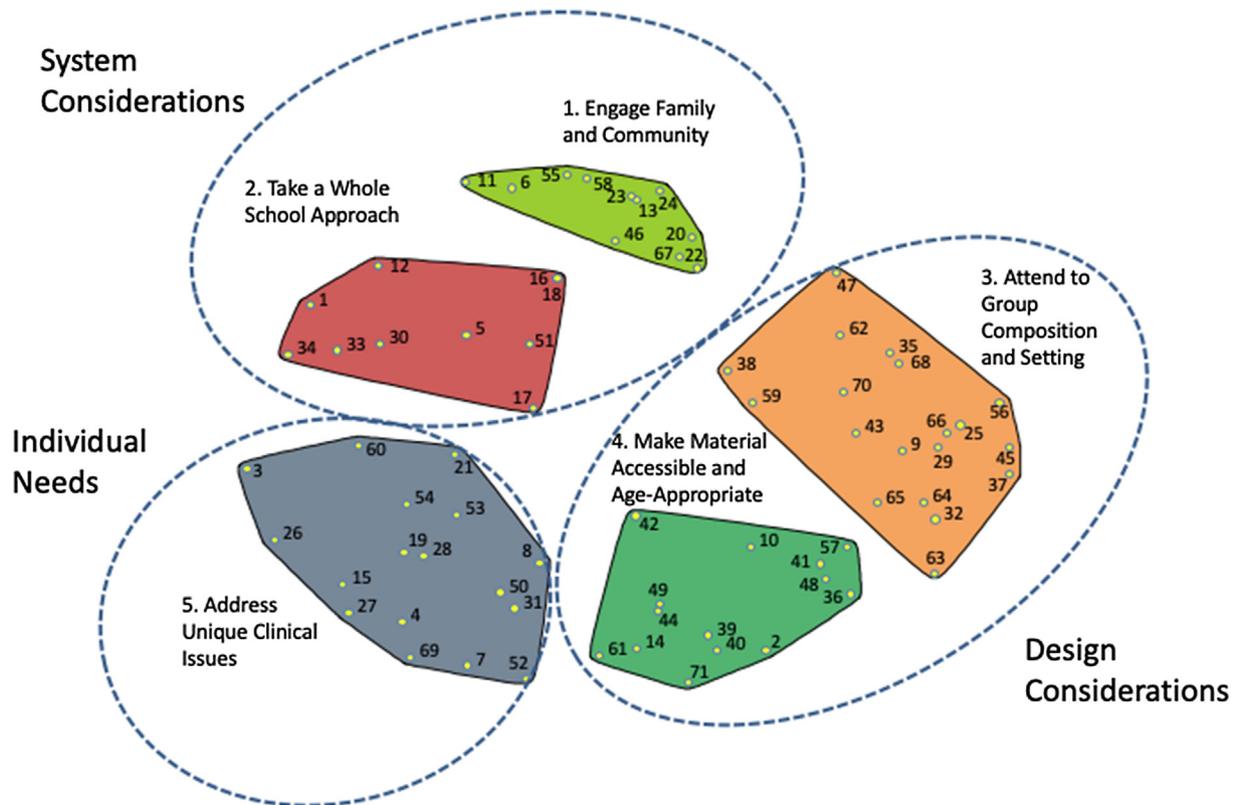


Fig. 1. Cluster rating map.

MA (39%) or PhD (15%) level. In addition, 24% of participants had contributed to the program development of STRONG, 10% provided implementation support, 7% identified as evaluators, 5% were trainers, and 10% identified themselves as having other roles (such as advising psychiatrist, and consultant on program content). Percentages across all categories total more than 100% because participants were able to select multiple roles.

The number of participants varied at different phases of the group concept mapping process. In the first phase, 23 participants generated statements in response to a focus prompt. This phase aims to “achieve a broad sampling of ideas rather than a representative sampling of persons” (Kane & Trochim, 2007, p. 36). In the second phase, 18 participants structured the data by sorting the statements into meaningful groups. This number of participants exceeds the recommended minimum required to generate interpretable concept maps (Kane & Trochim, 2007). All participants provided consent, and Western University’s institutional review board approved the study.

## 2.1. Procedure

### 2.1.1. Idea generation

Participants were invited by email to brainstorm ideas online using Concept Systems Global Max™ (Concept Systems Incorporated, 2017). This web-based interface facilitates distribution, data collection, and management of each phase of the group concept mapping process (i.e., defining the current project and focus prompt, adding and managing participants, brainstorming, sorting, and data analysis). During the brainstorming task, participants were asked to think broadly about their experiences working with newcomer children and youth and to type responses to the following focus statement in a text box: *Please list any important considerations you can think of for designing, implementing, and facilitating programs to promote resilience among newcomer children and youth.* Each response was saved and added to a list of collected statements at the bottom of the page where participants could review

their generated ideas. Participants had access to the online portal for a period of 4 weeks in order to provide flexibility for completing this task. The participants initially generated 67 statements. Subsequently, the first author and a consultant independently reviewed the generated statements for clarity and redundancy. Some of the statements were complex and contained multiple ideas, which necessitated us breaking them into shorter statements with one core idea in each statement. We removed others to eliminate redundancy. These data clarification procedures resulted in 71 unique and clear statements.

### 2.1.2. Sorting

Two months after the statement generation, we invited participants to the second phase of the study, which involved sorting the generated statements. Participants had another four weeks to complete the sorting task. Participants were directed to sort the statements into groups according to their meaning or theme and to provide a label for each group they developed (Trochim, 1989). Participants completed the sorting task remotely via internet using the Table-Top sorting screen on Concept Systems Global Max™ (i.e., unsorted items are displayed in a column on the left side of the screen and are dragged onto an open portion of the screen to create piles). All participants who were originally invited to be part of the study had the opportunity to sort statements, regardless of whether they had contributed to the idea generation. Eighteen participants completed the sorting task which was estimated to take between 30 and 60 min.

### 2.1.3. Data analysis

A concept map was developed using multidimensional scaling and hierarchical cluster analysis to categorize statements into conceptual domains (Burke et al., 2005; Johnsen et al., 2000). A goodness of fit value, also known as *Kruskal’s stress value*, was generated by the software to indicate how well the generated data point map fit the individually sorted data (Petrucci & Quinlan, 2007). Values can range between 0 (perfect fit) to 1 (poor fit), with acceptable values (i.e.,

indicative of internal representational validity) for group concept mapping ranging from 0.205 to 0.365 (Kane & Trochim, 2007). The final map generated a stress value of 0.29, indicating a stable solution (Trochim, 1993). All solutions ranging from three clusters to ten clusters were examined independently by the first two authors for conceptual fit.

### 3. Results

#### 3.1. Concept mapping findings

After examining the cluster solutions independently, both of the first two authors identified the five cluster solution as the most useful. Decisions about the most suitable cluster were based on conceptual fit (i.e., whether combining two clusters into one made sense conceptually, given the individual statements), and also based on how bridging values changed (i.e., did an additional merge raise bridging values, suggesting more ambiguity in how individual statements were sorted). The point cluster rating map is presented in Fig. 1. Cluster names were generated based on an examination of names provided by participants and careful consideration of individual items. We followed guidelines produced by Waltz et al. (2015) to select names that were relatively short, had a parallel structure, and were action-oriented. The five conceptual domains on the map were named: (1) engage family and community; (2) take a whole school approach; (3) attend to group composition and setting; (4) make material accessible and age-appropriate; and, (5) address unique clinical needs. We further organized the conceptual domains into three larger theoretical groups that spoke to the need to consider individual needs, systems considerations, and design features (as depicted by the dotted lines in Fig. 1). Table 1 shows the complete list of numbered statements in each cluster with their bridging values as well as the average bridging values for each cluster. Bridging values, calculated by the software, range from 0 to 1 and indicate whether statements were sorted with other statements nearby or statements further away (Kane & Trochim, 2007). Statements with lower bridging values were frequently sorted with nearby statements and are better indicators of the meaning of the part of the map they are located in, while statements with higher bridging values were sorted with many other statements on the map (i.e., both nearby and farther away). Overall, clusters with lower bridging values tend to be more conceptually consistent and easier to interpret (Jackson & Trochim, 2002).

The first cluster, *engage family and community*, included ten statements identifying the importance of looking beyond the school setting to determine what was already offered in the community and to consider how families could be involved in the development and implementation stages of this type of programming (bridging value = 0.29). A key theme in this cluster was the importance of taking the time to build appropriate relationships with families and community stakeholders to build a better foundation for the work directly involving children and youth (e.g., “consider how to reach family members beyond parent letters and sessions”).

The second cluster was labelled *take a whole school approach* and included 11 statements (bridging value = 0.10). This cluster included items that spoke to garnering support within the school system (e.g., “partner with natural allies in the school system [such as settlement workers, ELL teacher]”). This cluster also identified the need to ensure that those with authority in the schools provide the required credibility for the program (e.g., “having the director or higher-level management promote the importance, so principals and teachers will be more open and receptive to students missing classes”). Clusters 1 and 2 were further grouped into a larger theme (*systems considerations*) that highlighted the importance of looking beyond the specific youth and program to the larger ecosystem.

Cluster 3, *attend to group composition and setting*, included 19 items that emphasized the logistics of selecting students for a group, when and where to offer groups, and facilitation considerations (bridging

value = 0.16). Some of these considerations would be pertinent for any school-based group intervention (e.g., “time of year,” “consider an appropriate physical space to run the program”). Others were more specific to the cultural and language needs of students (e.g., “Avoid culturally significant events that would preclude children and youth from fully participating, e.g., Ramadan<sup>1</sup>”).

The fourth cluster, *make material accessible and age-appropriate*, included 14 items that spoke to matching developmental and linguistic needs of the groups (bridging value = 0.15). The cluster included items that provided specific considerations for addressing potential language barriers (e.g., “keep language simple”, “where language is a barrier, pictures and visuals could help”) as well as various considerations for the appropriateness of the programming with respect to age, gender, and culture (e.g., “ensure material is age-appropriate”, “flexibility to allow for cultural and linguistic variations”). Conceptually, we grouped clusters three and four in that they both addressed design considerations.

The final cluster included 17 items and was labelled *address unique clinical issues* (bridging value = 0.28). In some respects, these items appeared to be quite variable (and indeed had the highest bridging value). However, they were linked by an understanding of the complexities faced by refugee children and youth, including trauma, geopolitical contexts, and concerns meeting basic needs. Items included statements such as, “consider how current sociopolitical climate and policy change may be impacting youth and families (e.g., concerns about legal status being revoked)” and, “consider issues of survivor guilt and concern about loved ones left behind in country of origin.” Interestingly, the impact of this complexity on clinicians was reflected by participants grouping the possibility of compassion fatigue in this cluster (e.g., include some supports for clinicians as they might experience vicarious trauma).

### 4. Discussion

The purpose of this study was to create a conceptual map of important considerations for the development, implementation and evaluation of school-based mental health programs for newcomer (refugee and immigrant) students. Drawing on the expertise and experience of program developers, clinicians, and researchers involved with the STRONG pilot project, we identified five domains of important considerations. We then further grouped these domains conceptually into individual needs, design considerations, and systems considerations.

Understanding and attending to newcomer youth’s psychosocial (e.g., trauma and acculturation stress), as well as basic (e.g., housing and legal assistance) needs, emerged as important considerations related to addressing individual student needs. These findings align with previous research indicating that refugee youth may experience mental health issues related to their trauma exposure during migration (Birman et al., 2008; Lustig et al., 2004; Miller & Rasmussen, 2017). Given the acculturation stress associated with the newcomer experience, participants recognized that refugee and immigrant interventions should teach strategies to navigate their *current* situation (e.g., “consider that acculturation stressors may be more proximal and of higher priority than processing past trauma”). Similarly, these findings align with prior literature suggesting that interventions for newcomer youth should integrate case management services and address acculturation in addition to attending to mental health needs related to trauma (Birman et al., 2008; Brymer et al., 2008; Ellis et al., 2013; Murray et al., 2008).

Participants also recognized the need for newcomer interventions to adopt a strengths-based orientation and promote resilience. While many existing interventions to support newcomer youth emphasize treatment of psychopathology (e.g., Post-Traumatic Stress Disorder), these findings highlight the importance of also recognizing and

<sup>1</sup> Ramadan is a holy month that involves fasting from sunrise to sunset.

**Table 1**  
Statements and bridging indices for each cluster.

Cluster	Bridging
<b>Engage Family and Community</b>	<b>0.29</b>
18 Consider how to reach family members beyond parent letters and sessions	0.07
16 Make sure you have time to build relationships with families to support recruitment	0.07
17 Be mindful of stigma surrounding mental health in country of origin and how this may affect families willingness to allow student to participate	0.14
5 Involve families in the design and implementation	0.16
51 Highlight possible outcomes, strengths, and benefits of the program in relatable terms	0.22
30 Include families and community components	0.31
1 Consider what is being already facilitated in other communities where there has also been large concentrations of newcomer children and youth	0.40
33 Include target population in feedback about the intervention	0.47
12 Determine where an intervention fits in the overall service delivery model	0.50
34 Youth perspective and voice	0.56
<b>Take a Whole School Approach</b>	<b>0.10</b>
23 Having the director or higher level management promote the importance so principals and teachers will be more open and receptive to students missing classes	0.00
58 Share information about the intervention and importance of it with all school staff to reduce resistance	0.00
13 Educate teachers and school staff about the program and core concepts	0.01
24 Seek implementation support by local school leaders in addition to experts	0.06
46 Partner with natural allies in the school system (such as settlement workers, ELL teachers)	0.07
55 Engage administrators to provide systems support	0.07
20 Allowing enough time for adequate buy-in among schools, families, and students	0.10
22 Buy-in or support from the community immediately impacted by facilitation of group, so student participation does not negatively affect the participants or their families, for example: missing class time.	0.11
67 Have an ally to the youth and their families, support the initial engagement/understanding/consenting stage	0.11
6 What would be the ideal "universal" information to be embedded in classrooms to help other students support/welcome newcomers	0.27
11 School-wide and classroom-based activities and curriculum for non-newcomer students about how to include (and not discriminate against) newcomer youth	0.28
<b>Attend to Group Composition and Setting</b>	<b>0.16</b>
43 Whether participants from the same country of origin be grouped together	0.08
29 Keep groups small to allow each child to process experience	0.09
25 Whether to include siblings in the same group	0.11
37 Size of group	0.11
68 Time of year to run the groups	0.12
59 Avoid culturally significant events that would preclude children and youth from fully participating e.g., Ramadan.	0.13
35 Consider an appropriate physical space to deliver the program	0.14
56 Whether to have gender separate groups	0.15
65 Inclusivity	0.15
32 Take into account the established stages of group formation and process to allow time for group cohesion	0.15
9 Whether to include all newcomers or consider level of distress and/or trauma	0.16
45 Utilize a co-facilitator	0.18
70 Whether and how to use interpreters	0.18
38 Scalability	0.18
66 Whether to screen for trauma and have a different intervention for those with acute trauma symptoms	0.19
63 Length of time youth have been in country	0.20
64 Ease of delivery	0.21
62 Include host population and newly arrived populations to facilitate relationship building	0.26
47 How to support implementation following initial training and into subsequent years	0.32
<b>Make Material Accessible and Age Appropriate</b>	<b>0.15</b>
49 Keep language simple	0.08
40 Experiential activities/games for younger children	0.08
42 Flexibility to allow for cultural and linguistic variations	0.10
39 Ensure material is age appropriate	0.10
44 Limit the amount of language required if students are not proficient in English yet	0.11
71 Where language is a barrier, pictures and visuals could help	0.13
61 Provide space for exploration of strengths of culture of origin	0.14
10 How to ensure program meets the needs of both newcomer girls AND boys.	0.14
14 Accessible language for participants	0.19
48 Consider if a program can be for elementary students in general or needs to be further broken down for specific age groups	0.19
2 Provide handouts in multiple formats (online/power point/smart board friendly format)	0.20
57 Consider the diversity of students' language and culture	0.21
36 Balancing the amount of material to the length of the program	0.22
41 If translation is required, consider one language being translated per group	0.24
<b>Address Unique Clinical Issues</b>	<b>0.28</b>
31 Culturally appropriate examples of stress/trauma	0.06
50 Culturally sensitive materials and concepts (i.e., individualistic vs. collectivist cultures, different perspectives about conflict resolution, primacy of religious beliefs etc...)	0.07
8 Consider how conceptualizations of trauma, resilience and post-traumatic stress differ across cultures	0.07
28 Challenges with acculturation (i.e., conflict between fitting in with peers vs. Parents' expectations)	0.12
21 Ask the cultural communities how they promote resiliency in their communities and include in the design of the program	0.15
53 Consider how current sociopolitical climate and policy change may be impacting youth and families (e.g., concerns about legal status being revoked)	0.15
52 Include opportunity for youth to share their narratives of leaving their country of origin and immigrating to a new country	0.17
4 Consider issues of survivor guilt and concern about loved ones left behind in country of origin	0.19
54 Consider that acculturation stressors may be more proximal and of higher priority than processing past trauma	0.20
7 Consider how to address specific risks associated with newcomer gang involvement.	0.27
19 Emphasis on students' strengths and resilience	0.28

(continued on next page)

Table 1 (continued)

Cluster	Bridging
69 Focus on promoting strengths	0.32
60 Consider concrete needs for housing, legal, financial assistance along with mental wellness/resilience	0.34
15 Addressing grief/loss of newcomer youth and families	0.34
27 Good translations of materials	0.49
26 Materials should be available in families' first language	0.57
3 Include supports for clinicians as they might experience some vicarious trauma	1.00

leveraging youths' strengths (e.g., Entholt & Yule, 2006), as well as the role of a positive youth development lens in promoting resiliency among children and adolescents (e.g., Lerner, Almerigi, Theokas, & Lerner, 2005). Finally, culturally specific topics (e.g., primacy of religious beliefs, individualistic versus collectivistic perspectives) were also central to attending to students' individual needs by designing culturally-tailored interventions. These findings reflect the importance of integrating culturally-relevant concepts to promote well-being (e.g., Birman et al., 2008; Murray et al., 2010).

Beyond the unique clinical needs of newcomer youth, participants recommended interventions be *designed* and *adapted* to fit the population being served and the intervention setting. Specifically, participants highlighted the importance of attending to the group composition (e.g., gender-specific groups), time of year, and setting (e.g., physical space). Similarly, Entholt et al. (2005) underscored the role of participant selection in the implementation of group school-based interventions for immigrant youth. Adapting the intervention to fit the school setting also aligns with implementation science, which demonstrates that resources (e.g., funds and space) influence the effectiveness of an intervention (Durlak & DuPre, 2008; Wandersman et al., 2008). In schools, finding adequate and consistent space to facilitate mental health intervention groups may be challenging, yet is essential to ensure privacy and promote a sense of emotional safety among group members. Given variability in English language proficiency and developmental stage of newcomer youth, participants also encouraged design considerations related to material accessibility (e.g., use of visuals). Non-traditional language learning methods (e.g., arts-based instruction), creative techniques, and a diversity of activities (e.g., relaxation exercises) promote engagement among refugee youth (Marshall, Butler, Roche, Cumming, & Taknint, 2016; Möhlen, Parzer, Resch, & Brunner, 2005; Rousseau, Drapeau, Lacroix, Bagilishya, & Heusch, 2005).

Given the many influencers of youth functioning and success and the many systems that interact with newcomer students, it is essential that intervention developers engage a broad group of stakeholders, including families, educators and other community partners. Participants in the current study emphasized a multi-method approach to parent engagement that "goes beyond letters home," to include family outreach at the development and evaluation stages of intervention development. Building on family strengths is connected to positive outcomes for refugee youth, and therefore the likelihood of intervention success may be increased by identifying and leveraging those strengths via active family engagement (Murray et al., 2008; Refugee Trauma Task Force, 2005; Weine et al., 2003; Weine et al., 2008).

Successful implementation of school-based interventions rests on the collaboration and buy-in of school administrators and staff (Durlak & DuPre, 2008; Forman, Olin, Hoagwood, Crowe, & Saka, 2009). Schools already play a significant role in connecting refugee youth to mental health services (Fazel et al., 2016; Kia-Keating & Ellis, 2007; Sullivan & Simonson, 2016; Tyrer & Fazel, 2014), so it is important to engage educators in identifying and facilitating access for newcomers to school- and community-based mental health supports. Overall, participants suggested that the delivery of newcomer mental health interventions is ideally a collaborative effort among youth, family, community members, and school staff.

Although our intention in conducting this study was to inform the

area of program development and implementation for school-based programming for newcomer students more broadly, the results have also been useful in further revising the STRONG program and its implementation. Based on these findings (as well as feedback gathered from other stakeholders), the development team has made further revisions to the program, such as reducing the amount and complexity of language, and increasing the number of supplemental materials available in families' first languages. Similarly, a number of implementation support materials were developed to address some of the systems issues identified in this paper. These include tailored materials for teachers, administrators, and school mental health leaders to outline the purpose of the program and specific ways in which each stakeholder group can support students' successful engagement in the program. We are currently collecting feedback on these new materials to assess their utility in supporting implementation. Beyond changes to program and implementation supports, the results of this study helped us identify future research directions. For example, we have developed a much more comprehensive referral form to be able to assess the program fit and group composition considerations.

#### 4.1. Limitations

The main limitation of this study was that all participants were involved in developing one intervention (STRONG), which might limit the generalizability of the findings. At the same time, many of the participants had broader experience working with newcomer youth, and they were encouraged to think of all their experience in identifying considerations (i.e., the brainstorming stage of the GCM procedure). In addition, while this study captured important considerations from the perspectives of program developers, clinicians, and researchers, it did not include youth or families' perspectives. An important next step would be to add the perspectives of these other critical stakeholders. We purposely used a broad prompt to encourage participants to think about program development and implementation holistically; however, if we had focused on only one of those two areas we might have generated even more ideas about that particular domain.

#### 4.2. Summary

This study utilized the expertise of a range of adult professional stakeholders involved in developing school-based programs to support the mental health of refugee and immigrant students. The results of this study echoed key principles of implementation science in recognizing important elements beyond the immediate intervention (Domitrovich et al., 2008). In our findings, participants identified important considerations at the student (e.g., prioritize acculturative stress), school (e.g., partner with natural allies in the school system such as settlement workers, ELL teachers) and system levels (e.g., be mindful of stigma surrounding mental health in country of origin and how this may affect families' willingness to allow student to participate). Identifying these multilevel considerations at the design level provides an opportunity to address them proactively rather than trying to accommodate these factors after a program has already been developed. Ideally, program developers would attend to these considerations at the outset of the program planning process to ensure maximum success of program

implementation and evaluation. We recognize that the current findings represent the perspectives of some stakeholders but not others, and look forward to adding youth and families' voices to this work. In addition, although the participants in this study were able to identify a wide range of recommendations for effective programming, there is a clear need to evaluate whether these recommended strategies result in positive benefits for youth.

### Declaration of Competing Interest

There are no conflicts of interest to be declared by the authors.

Funding for this project was provided to the first author by School Mental Health Ontario (Ontario Ministry of Education).

### References

- Beehler, S., Birman, D., & Campbell, R. (2012). The effectiveness of cultural adjustment and trauma services (cats): Generating practice-based evidence on a comprehensive, school-based mental health intervention for immigrant youth. *American Journal of Community Psychology*, 50(1–2), 155–168. <https://doi.org/10.1007/s10464-011-9486-2>.
- Birman, D., Beehler, S., Harris, E. M., Everson, M. L., Batia, K., Liautaud, J., ... Cappella, E. (2008). International Family, Adult, and Child Enhancement Services (FACES): A community-based comprehensive services model for refugee children in resettlement. *American Journal of Orthopsychiatry*, 78(1), 121–132. <https://doi.org/10.1037/0002-9432.78.1.121>.
- Bronstein, I., & Montgomery, P. (2011). Psychological distress in refugee children: A systematic review. *Clinical Child and Family Psychology Review*, 14, 44–56. <https://doi.org/10.1007/s10567-010-0081-0>.
- Brymer, M. J., Steinberg, A. M., Sornborger, J., Layne, C. M., & Pynoos, R. S. (2008). Acute interventions for refugee children and families. *Child and Adolescent Psychiatric Clinics of North America*, 17(3), 625–640. <https://doi.org/10.1016/j.chc.2008.02.007>.
- Burke, J. G., O'Campo, P., Peak, G. L., Gielen, A. C., McDonnell, K. A., & Trochim, W. M. K. (2005). An introduction to concept mapping as a participatory public health research method. *Qualitative Health Research*, 15(10), 1392–1410.
- The Child and Youth Refugee Research Coalition (CYRRC) (2018). Demographic & Socioeconomic Characteristics. Retrieved from <http://cyrrc.org/data-aggregation/demographic-socioeconomic-characteristics/>.
- Concept Systems Incorporated (2017). *The Concept System® Global Max™ Software Guide*. Ithaca, New York: Author.
- Crooks, C. V., Hoover, S., & Smith, A. C. G. (2020). Feasibility trial of the school-based STRONG intervention to promote resilience among newcomer youth. *Psychology in the Schools* In press.
- Domitrovich, C. E., Bradshaw, C. P., Poduska, J. M., Hoagwood, K., Buckley, J. A., Olin, S., ... Ialongo, N. S. (2008). Maximizing the implementation quality of evidence-based preventive interventions in schools: A conceptual framework. *Advances in School Mental Health Promotion*, 1(3), 6–28.
- Durá-Vilà, G., Klaseen, H., Makatini, Z., Rahimi, Z., & Hodes, M. (2013). Mental health problems of young refugees: Duration of settlement, risk factors and community-based interventions. *Clinical Child Psychology and Psychiatry*, 18(4), 604–623.
- Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, 41(3–4), 327–350.
- Ehnholt, K. A., Smith, P. A., & Yule, W. (2005). School-based Cognitive-Behavioral Therapy Group Intervention for Refugee Children who have Experienced War-related Trauma. *Clinical Child Psychology and Psychiatry*, 10(2), 235–250. <https://doi.org/10.1177/1359104505051214>.
- Ehnholt, K. A., & Yule, W. (2006). Practitioner Review: Assessment and treatment of refugee children and adolescents who have experienced war-related trauma. *Journal of Child Psychology and Psychiatry*, 47(12), 1197–1210. <https://doi.org/10.1111/j.1469-7610.2006.01638.x>.
- Ellis, B. H., Miller, A. B., Abdi, S., Barrett, C., Blood, E. A., & Betancourt, T. S. (2013). Multi-tier mental health program for refugee youth. *Journal of Consulting and Clinical Psychology*, 81(1), 129–140. <https://doi.org/10.1037/a0029844>.
- Eruyar, S., Huemer, J., & Vostanis, P. (2018). How should child mental health services respond to the refugee crisis? *Child and Adolescent Mental Health*, 23(4), 303–312.
- Fazel, M., Doll, H., & Stein, A. (2009). A school-based mental health intervention for refugee children: An exploratory study. *Clinical Child Psychology and Psychiatry*, 14(2), 297–309. <https://doi.org/10.1177/1359104508100128>.
- Fazel, M., Garcia, J., & Stein, A. (2016). The right location? Experiences of refugee adolescents seen by school-based mental health services. *Clinical Child Psychology and Psychiatry*, 21(3), 368–380.
- Forman, S., Olin, S. S., Hoagwood, K., Crowe, M., & Saka, N. (2009). Evidence-Based interventions in schools: Developers' views of implementation barriers and facilitators. *School Mental Health*, 1(1), 26–36. <https://doi.org/10.1007/s12310-008-9002-5>.
- Fox, P. G., Rossetti, J., Burns, K. R., & Popovich, J. (2005). Southeast Asian refugee children: A school-based mental health intervention. *The international journal of psychiatric nursing research*, 11(1), 1227–1236.
- Hoover, S., Bostic, J., Orenstein, S., & Robinson-Link, N. (2019). *Supporting Transition Resilience of Newcomer Groups (STRONG)*. Ellicott City, MD: Hoover Behavioral Health, Inc.
- Jackson, K. M., & Trochim, W. M. K. (2002). Concept mapping as an alternative approach for the analysis of open-ended survey responses. *Organizational Research Methods*, 5(4), 307–336. <https://doi.org/10.1177/109442802237114>.
- Johnsen, J. A., Biegel, D. E., & Shafran, R. (2000). Concept mapping in mental health: Uses and adaptations. *Evaluation and Program Planning*, 23, 65–75.
- Kane, M., & Trochim, W. M. K. (2007). *Concept mapping for planning and evaluation*. Thousand Oaks, CA: Sage.
- Kataoka, S. H., Stein, B. D., Jaycox, L. H., Wong, M., Escudero, P., Tu, W., ... Fink, A. (2003). A school-based mental health program for traumatized Latino immigrant children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42(3), 311–318.
- Kelly, C. M., Baker, E. A., Brownson, R. C., & Schootman, M. (2007). Translating research into practice: Using concept mapping to determine locally relevant intervention strategies to increase physical activity. *Evaluation and Program Planning*, 30(3), 282–293.
- Kia-Keating, M., & Ellis, B. H. (2007). Belonging and connection to school in resettlement: Young refugees, school belonging, and psychosocial adjustment. *Clinical Child Psychology and Psychiatry*, 12(1), 29–43. <https://doi.org/10.1177/1359104507071052>.
- Kirmayer, L. J., Narasiah, L., Munoz, M., Rashid, M., Ryder, A. G., Guzder, J., ... Canadian Collaboration for Immigrant and Refugee Health (CCIRH) (2011). Common mental health problems in immigrants and refugees: general approach in primary care. *Canadian Medical Association Journal*, 183(12), E959–E967. <https://doi.org/10.1503/cmaj.090292>.
- Lerner, R., Almerigi, J., Theokas, C., & Lerner, J. (2005). Positive youth development: A view of the issues. *Journal of Early Adolescence*, 25(1), 10–16. <https://doi.org/10.1177/0272431604273211>.
- Lustig, S. L., Kia-Keating, M., Knight, W. G., Geltman, P., Ellis, H., Kinzie, J. D., ... Saxe, G. N. (2004). Review of child and adolescent refugee mental health. *Journal of The American Academy of Child & Adolescent Psychiatry*, 43(1), 24–36. <https://doi.org/10.1097/00004583-200401000-00012>.
- Marshall, E. A., Butler, K., Roche, T., Cumming, J., & Taknint, J. T. (2016). Refugee youth: A review of mental health counselling issues and practices. *Canadian Psychology/Psychologie Canadienne*, 57(4), 308–319. <https://doi.org/10.1037/cap0000068>.
- Miller, K. E., & Rasmussen, A. (2017). The mental health of civilians displaced by armed conflict: An ecological model of refugee distress. *Epidemiology and psychiatric sciences*, 26(2), 129–138.
- Möhlen, H., Parzer, P., Resch, F., & Brunner, R. (2005). Psychosocial support for war-traumatized child and adolescent refugees: Evaluation of a short-term treatment program. *Australian and New Zealand Journal of Psychiatry*, 39(1–2), 81–87. <https://doi.org/10.1111/j.1440-1614.2005.01513.x>.
- Murray, L. K., Cohen, J. A., Ellis, B. H., & Mannarino, A. (2008). Cognitive behavioral therapy for symptoms of trauma and traumatic grief in refugee youth. *Child and Adolescent Psychiatric Clinics of North America*, 17(3), 585–604. <https://doi.org/10.1016/j.chc.2008.02.003>.
- Petrucchi, C. J., & Quinlan, K. M. (2007). Bridging the research-practice gap: Concept mapping as a mixed-methods strategy in practice-based research and evaluation. *Journal of Social Service Research*, 34(2), 25–42. <https://doi.org/10.1300/J079v34n02>.
- Rousseau, C., Drapeau, A., Lacroix, L., Bagilishya, D., & Heusch, N. (2005). Evaluation of a classroom program of creative expression workshops for refugee and immigrant children. *Journal of Child Psychology and Psychiatry*, 46(2), 180–185. <https://doi.org/10.1111/j.1469-7610.2004.00344.x>.
- Refugee Trauma Task Force (2005). *Mental Health Interventions for Refugee Children in Resettlement*. White Paper II National Child Traumatic Stress Network.
- Ruf, M., Schauer, M., Neuner, F., Catani, C., Schauer, E., & Elbert, T. (2010). Narrative exposure therapy for 7- to 16-year-olds: A randomized controlled trial with traumatized refugee children. *Journal of Traumatic Stress*, 23(4), 437–445.
- Schottelkorb, A. A., Doumas, D. M., & Garcia, R. (2012). Treatment for childhood refugee trauma: A randomized, controlled trial. *International Journal of Play Therapy*, 21(2), 57.
- Sirin, S. R., & Rogers-Sirin, L. (2015). *The educational and mental health needs of Syrian refugee children*. Washington, DC: Migration Policy Institute.
- Snider, C. E., Kirst, M., Abubakar, S., Ahmad, F., & Nathens, A. B. (2010). Community-based participatory research: Development of an emergency department-based youth violence intervention using concept mapping. *Academic Emergency Medicine*, 17(8), 877–885.
- Statistics Canada (2017). Immigration and ethnocultural diversity: Key results from the 2016 Census. Retrieved from <https://www150.statcan.gc.ca/n1/daily-quotidien/171025/dq171025b-eng.htm>.
- Sullivan, A. L., & Simonson, G. R. (2016). A systematic review of school-based social-emotional interventions for refugee and war-traumatized youth. *Review of Educational Research*, 86(2), 503–530.
- Trochim, W. M. K. (1989). An introduction to concept mapping for planning and evaluation. *Evaluation and Program Planning*, 12, 1–16.
- Trochim, W. M. K. (1993). The reliability of concept mapping. Paper presented at the Annual Conference of the American Evaluation Association, Dallas, Texas.
- Tyrer, R. A., & Fazel, M. (2014). School and community-based interventions for refugee and asylum seeking children: A systematic review. *Plos ONE*, 9(2), <https://doi.org/10.1371/journal.pone.0089359>.
- United Nations High Commissioner for Refugees (2018). *Figures at a Glance*. Retrieved from <https://www.unhcr.org/figures-at-a-glance.html>.
- Vaughn, L. M., Jacquez, F., & McLinden, D. (2013). The use of concept mapping to identify community-driven intervention strategies for physical and mental health.

- Health Promotion Practice*, 14(5), 675–685.
- Wandersman, A., Duffy, J., Flaspohler, P., Noonan, R., Lubell, K., Stillman, L., ... Saul, J. (2008). Bridging the gap between prevention research and practice: The interactive systems framework for dissemination and implementation. *American Journal of Community Psychology*, 41(3–4), 171–181.
- Waltz, T. J., Powell, B. J., Matthieu, M. M., Damschroder, L. J., Chinman, M. J., Smith, J. L., ... Kirchner, J. E. (2015). Use of concept mapping to characterize relationships among implementation strategies and assess their feasibility and importance: Results from the Expert Recommendations for Implementing Change (ERIC) study. *Implementation Science*, 10(1), 1.
- Weine, S., Kuluzovic, Y., Klebic, A., Besic, S., Mujagic, A., Muzurovic, J., ... Rolland, J. (2008). Evaluating a multiple-family group access intervention for refugees with PTSD. *Journal of Marital And Family Therapy*, 34(2), 149–164. <https://doi.org/10.1111/j.1752-0606.2008.00061.x>.
- Weine, S. M., Raina, D., Zhubi, M., Delesi, M., Huseni, D., Feetham, S., ... Pavkovic, I. (2003). The TAFES multi-family group intervention for Kosovar refugees: A feasibility study. *Journal of Nervous and Mental Disease*, 191(2), 100–107. <https://doi.org/10.1097/00005053-200302000-00006>.