

Family-based Interventions of Preventing Substance Use Among Immigrant Youth: A Scoping Review

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Substance Use: Research and Treatment

Volume 18: 1–10

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DOI: 10.1177/29768357241244680



ABSTRACT

INTRODUCTION: Immigrant youth face heightened risks of substance use due to the stress associated with immigration and acculturation. While parental intervention can have a preventative impact on substance use, parents need to be well-informed about substance use and effective interventions that can prevent substance use among immigrant youth. Such interventions ought to be culturally sensitive, family-based, and targeted at the specific substances that are prevalent in a given context. Identifying and curating interventions that can empower parents in addressing substance use can help mitigate the risks that immigrant youth may face.

METHODS: This scoping review aimed to identify the types, characteristics, and effectiveness of family-based substance use intervention programs. Based on Arksey and O'Malley's guidelines, interventions included in the review must have met the following criteria: (a) was a family-based intervention aiming to prevent substance use; (b) targeted immigrant teens aged 12 to 17 years old; (c) was published in English; (d) originated from Australia, Canada, New Zealand, or the United States. The pinch table was used to synthesize included articles, after which studies were compared and categorized, and cross-cutting categories were identified.

RESULTS: After screening 4551 searched literature, 13 studies that utilized family-based interventions were included in the review. All interventions were face-to-face programs, and most interventions involved parents and youth as participants. Eco-developmental theory and active learning strategies were used by multiple interventions. Given immigrant families were target stakeholders, both deep structure and surface structure cultural adaptations were utilized. Interventions increased parents' knowledge and skills regarding substance use prevention and delayed substance use initiation among youth.

CONCLUSION: From the review, it was evident that parents are an essential element in any program aiming to prevent or reduce children's substance use. Besides information about substance use prevention, the curriculum also involves parenting and communication skills for parents to understand the protective effects of family. Effective family-based interventions for immigrant youth require attention to parenting and immigration stress, while also considering cultural adaptation. Future directions and limitations are also discussed.

KEYWORDS: Substance use, immigrant, youth, family-based interventions, prevention

RECEIVED: June 17, 2023. **ACCEPTED:** March 15, 2024.

TYPE: Review

FUNDING: The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This project was funded by the Canadian Research Initiative in Substance Misuse (CRISM) Prairie Node.

DECLARATION OF CONFLICTING INTERESTS: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Background

Canada has experienced a growth in substance use over recent years. The number of people who reported drinking alcohol was about 21.9 million in 2012¹; this had risen to 23.7 million by 2018.² Before the legislation of marijuana in 2016, about 15% of Canadians reported using it; this had also risen to about 21% in 2018.³ For illicit drugs, about 3.7 million Canadians used at least 1 in 2015, rising to 4.5 million in 2017.⁴ Indeed, the Canadian Tobacco, Alcohol, and Drugs Survey estimated in 2017 that 20% of Canadians aged 15 years or older experienced problematic substance use during their lifetime.⁵

Young people have a higher rate of substance use in Canada compared to other developed countries.⁶ A report by Health Canada indicates that over 40% of Canadian students in grades 7 to 12 consumed alcoholic beverages, 23% tried at least 1

tobacco product, 4% reported consuming illegal drugs, and 18% reported cannabis use between 2018 and 2019.⁷ Widespread substance use among youth has been associated with several adverse health, social, and behavioral outcomes,⁶ including educational attainment, and social development.^{8–10} For instance, alcohol and cannabis use during adolescence may not only relate to abnormalities in brain structure, function, and neurocognition, but also be associated with mental illnesses, including depression, anxiety, internalizing distress, and posttraumatic stress disorder.^{8,10–12} Youth involved in substance use are more likely to experience lower academic achievements, as they show decrements in memory, attention, executive functioning, and language competence.^{10,13,14} They also report having more antisocial peers with high levels of drug use, which predicts the likelihood of anti-social behaviors such as bullying,



aggression, violence, theft, and delinquency, with adverse effects on social development.^{10,15}

Given the high risks of substance use among youth and the high proportion of immigrants in the Canadian population,¹⁶ it is important to focus on immigrant youth. According to United Nations definitions,^{17,18} immigrant youth in this study are individuals aged 12 to 17 who have relocated from their country of origin. Currently, very limited information related to substance use among immigrant youth, and nationwide, race-based data on substance use among immigrant youth is not collected in Canada.¹⁹ Some of the available data is regional or based on certain ethnic groups in other countries.^{19–23} For instance, about 20% of immigrant youth from Cambodia and Vietnam in the U.S. reported using tobacco, marijuana, or alcohol,²⁰ while compared to Spain-born youth, Latinx immigrant youth may experience a higher lifetime prevalence of alcohol.²¹ Although immigrant youth generally report consuming lower quantities of substances compared to their native-born counterparts, they face diverse risks of high levels of substance consumption when they settle their life in a new country.²⁴ Young immigrants experience various risks that increase their particular vulnerability to substance use.¹⁹ These include stresses associated with pre- and post-immigration experiences, peer pressure, and the greater availability of substances compared to their home countries.^{19,25,26}

Risk factors for substance use among young immigrants include immigration-related stress (attributable to difficulties in the settlement process), perceived racism, stigma, discrimination, marginalization, loneliness, and family conflicts.^{27,28} For example, perceived discrimination, especially in the school setup, can significantly reduce involvement in school activities and may tempt them to gravitate toward peers who use substances.^{28,29} Substance use among immigrant youth increases the risk for impaired driving, risky sexual intercourse, as well as for sexually transmitted infections, substance use disorders, school attrition, deteriorating family relations, self-harm, and engagement with the criminal justice system.^{9,30,31}

Parental supervision plays a crucial role in the attitudes and behaviors of immigrant youth toward substance use and abuse.³² Studies have demonstrated that positive family relationships with children—especially effective communication and supervision—can be essential protective factors against the initiation and subsequent use of substances.³³ It may be especially difficult for immigrant parents to effectively discharge their parental responsibilities, as they must contend with immigration-related stressors when settling down in a new country, such as learning a different language, finding employment, and acculturating.³² Parents may also not understand that underlying behavioral problems in child development should be respected and prevented rather than ignored or remedied.³⁴

Active engagement of immigrant families in preventing their youth's substance use can help build strong parental support, which can be used to increase culturally responsive

parenting knowledge and strengthen parenting skills.^{35–37} This can be achieved by implementing family-based substance use prevention programs, which are more effective than youth-only prevention interventions and provide long-term effects.^{38,39} Family-based programs can strengthen family communication, parental monitoring, involvement, and supervision, all of which can help delay or prevent substance use initiation and frequency.^{40,41} For instance, Fang and Schinke⁴² tested the efficacy of family-based prevention approaches in decreasing substance use among Asian American adolescents. They found that participants involved in the prevention program showed higher levels of closeness and positive communication with their parents and reported decreased instances of substance use than the control group.⁴²

Family-based interventions consider the influence of both the culture of origin and acculturation on the parent-child relationship; they apply cultural adaptation to avoid misunderstanding between cultures.⁴³ Indeed, programs can be adapted to be culturally appropriate for ethnic families by translating them into the target populations' language, providing relevant life skills curriculums, and respecting their culture and history.^{44,45} With cultural adaptation, family-based interventions can be effectively applied to diverse populations.⁴⁶

Currently, there is a lack of a comprehensive repertoire of family-based substance use prevention approaches that can be used by immigrants in Canada.⁴⁷ A scoping review of the literature on this issue was funded by a seed grant from The Canadian Research Initiative in Substance Misuse—Prairie Node, aiming to explore currently available interventions, and present the findings to the community stakeholders who work with immigrants for subsequent action.^{48,49} The results of scoping reviews reveal the depth and breadth of the identified content, allowing researchers to identify knowledge gaps.^{50,51}

Methods

The scoping review aimed to examine the current literature related to family-based interventions for preventing substance use among immigrant youth. According to the guidelines published by Arksey and O'Malley's⁴⁸ and Mak and Thomas's,⁵² this scoping review comprised 5 steps: (1) identifying the research question; (2) identifying relevant studies; (3) selecting studies; (4) charting the data; and (5) collating, summarizing, and reporting the results. The research team used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 flow diagram to report search results. The protocol that informs this scoping review has been published elsewhere.⁴⁷

Step 1: Identifying the research question

The focus of this project was family-based interventions that prevented substance use among immigrant youth and their

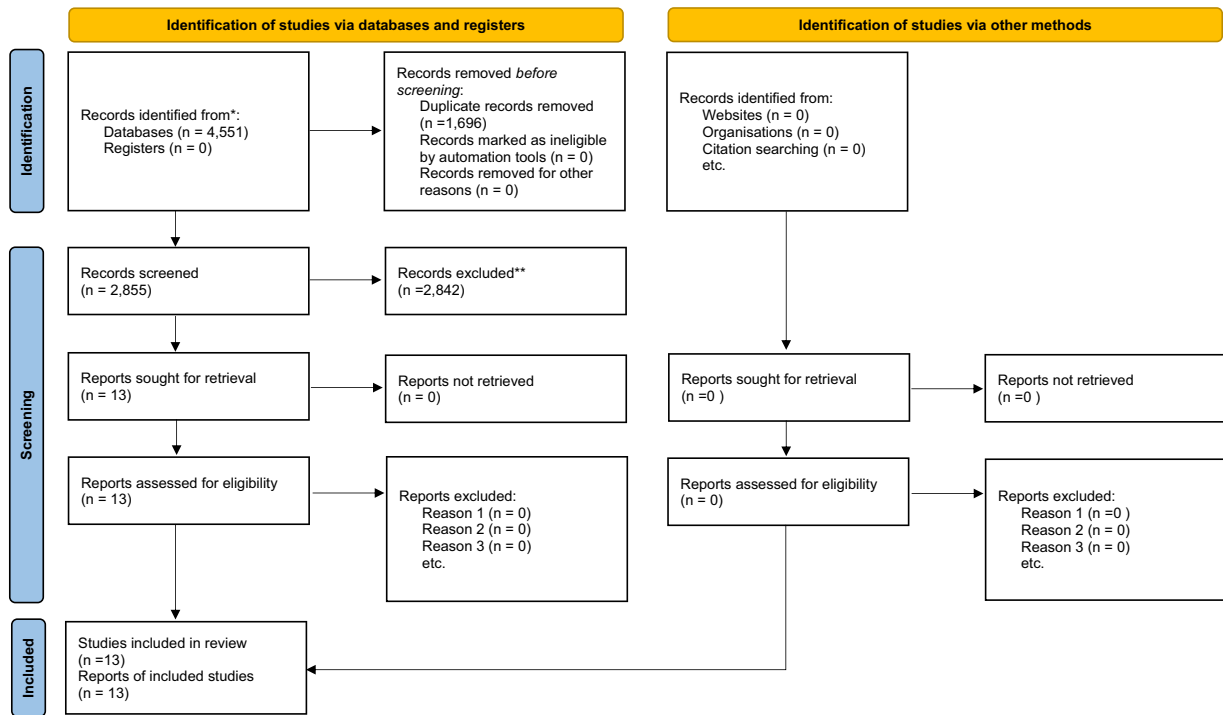


Figure 1. PRISMA flow diagram.

Source: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: <http://www.prisma-statement.org/>

families. Two research questions informed the scoping review: (1) What is known about family-based prevention interventions applied to immigrant youth? (2) What are the characteristics and study outcomes of these prevention programs?

Step 2: Identifying relevant studies

The research team conducted comprehensive searches of both academic and gray literature. First, the Health Sciences Librarian (KR) helped the research team develop a concept map with 5 key terms: “Family,” “Youth,” “Prevention,” “Immigration,” and “Substance Use.” Second, KR conducted a test search via Ovid MEDLINE to ensure that the concept map was practical. Third, literature searches were performed using 5 databases of academic research (PsycInfo, CINAHL, EMBASE, MEDLINE, and Web of Science). In the gray literature, resources of the Canadian Centre on Substance Use and Addiction (CCSA), the Centre for Addiction and Mental Health (CAMH), and the Canadian Agency for Drugs and Technologies in Health (CADTH) were also searched. As the research process was delayed due to the COVID-19 pandemic, the literature search was conducted in 2 steps. Initially, we searched the literature from 2001 to 2021; subsequently, we also searched the literature from 2022 to March 2023. Figure 1 shows the search process and the search returns. The literature search was limited to 22 years between 2001 and 2023: because substance use interventions usually followed social trends and social life changes, those implemented before 2001 may be outdated.⁵³

Step 3: Selecting studies

Once the literature search was completed, the results were imported into Rayyan to screen studies via titles and abstracts.⁵⁴ Two reviewers screened studies, and a tie-breaker was used to reconcile articles on which the reviewers disagreed. The inclusion criteria applied in articles screening were as follows: (a) focus on family-based intervention of substance use prevention; (b) targeted immigrant teens between 12 and 17 years old; (c) published in English; (d) conducted in Australia, Canada, New Zealand, and the United States; these countries were included because they are the leading English-speaking immigrant-receiving countries.⁵⁵ Exclusion criteria applied to studies that: (1) did not focus on families and immigrants, (2) addressed adults and children (under 12 years old), (3) were not written in English, and (4) were reviews or letters to the editor. We restricted the review to those studies that focused on alcohol, marijuana, and illicit drugs, as they were perceived to be substances of public health concern that were also costly to the national healthcare system.^{56,57}

Step 4: Charting the data

The research team created a pinch table to summarize the selected articles and map out the characteristics of each prevention program. The table had the following columns: title, author(s), publication year, intervention name, data collection methods, intervention characteristics, research outcomes, significant findings, and implications.

Step 5: Collating, summarising, and reporting results

At this stage, full-text articles were downloaded from the library website. The articles were summarized by a pinch table, and next, 3 research team members read through all included studies and coded texts (eg, participants) that may be relevant to research questions; then, they compared studies and categorized codes.⁵²

Results

The research team retrieved 4551 items of literature from databases, as summarized in Figure 1. After removing duplicates and screening articles based on the inclusion criteria, 13 articles were included in the scoping review. Supplemental Table 1 summarizes the collated data. It should be noted that articles 2 and 3 are from the same project^{58,59} and articles 9 and 10 are from the same project.^{60,61} The manuscripts are described based on the following 4 categories: (a) family-based interventions, (b) the mechanism of the interventions, (c) the cultural adaptation of the interventions, and (d) the effectiveness of interventions.

Family-based interventions

Eight different intervention models were utilized in the 13 articles included in the review. Interventions were summarized based on settings, stakeholders involved, and structures. In most of these interventions, the setting involved in-person group sessions,^{58,59,62-68} with participants being randomly assigned to groups.^{58,59,65,68-70} Most stakeholders were both parents and youth.^{58,59,62-64,66,67,71,72} In terms of structure, parenting sessions were the most common component.^{58,59,63,65-67,71}

Settings of the interventions. Diverse settings are described in the manuscripts where these interventions were undertaken. For Familias Unidas,⁶²⁻⁶⁴ the Preparing the New Generation (FPNG),^{58,59,65} the Family Skills Training Program,⁶⁶ Nuestras Familias,⁶⁷ and CAPAS: Criando con Amor, Promoviendo Armonía y Superación,⁶⁸ participants attended in-person group sessions. Most participants were randomly assigned into groups.^{58,59,65,68-70}

Two research teams that implemented the FPNG reported the location of the intervention. In the study by Nagoshi et al,⁶⁵ the intervention was implemented at the Melting Pot community center in the Dallas Independent School District, as participants were recruited through the community center and a service agency that partnered with the school district to reduce risky behaviors among youth. Williams et al⁵⁸ recruited participants from schools and implemented the intervention at a school in a Southwestern city in the U.S. On the other hand, the Family Check-Up⁷³ was delivered on an individual basis; that is, parents finished the assessment at home and had conversations with the consultant and therapist.

Stakeholders involved in the interventions. First, participants in the Familias Unidas⁶²⁻⁶⁴ intervention were Hispanic/Spanish-speaking immigrant families in the U.S. In particular, Cordova et al⁶² reported that participants were both U.S.-born and foreign-born Hispanic youth and their parents. The youth participants were in the eighth grade and were recruited from 3 middle schools around Miami.⁶² They were identified by their parents as being at high risk of behavioral issues.⁶² In Pantin et al's⁶³ project, participants included Hispanic youth in grades 6 and 7, enrolled in low-income neighborhood schools in Miami, along with their parents. In Rojas et al's⁶⁴ project, participants were 12 to 17 years adolescents who were recruited from public schools in Miami-Dade County and their Spanish-speaking immigrant parents.

In the FPNG, participants varied across different research teams and study conditions. In Nagoshi et al's⁶⁵ project, participants were 14 Burmese immigrant parents who were recruited from the Melting Pot Community Centre in Dallas. Williams et al⁵⁸ and Marsiglia et al⁵⁹ reported that participants were seventh-grade students from schools with a large percentage of Latino students, and if youth participants were assigned to the youth + parents groups, it means that parents were also participants in those groups. Third, 4 intervention models, including Adelante,⁷¹ Nuestras Familias,⁶⁷ Family Check-Up,⁶⁶ and the CAPAS⁷² had both youth and parents as participants, while characteristics of participants varied by studies. Youth in Adelante,⁷¹ Family Check-Up,⁷³ and CAPAS⁶⁸ programs were identified as being at risk of behavioral issues. Edberg et al⁷¹ reported that participants were from a community in Washington DC, with many immigrants from Central America, while Véronneau et al⁷³ mentioned that participants were from Northwest City in the US, which has a diverse population. Martinez et al⁶⁷ recruited both U.S.-born and foreign-born youth. In Parra-Cardona et al's⁶⁸ program, adult participants were recruited if they self-identified as first-generation Latinx, had Spanish as their primary language, and had financial issues. Fourth, for the Family Skills Training Program,⁶⁶ participants were parents, who self-identified as being from Latin America, were Spanish-speaking, and had children aged 10 to 14. Fifth, ¡Unidos Se Puede! / Juntos Para Una Mejor Educación⁶¹ only involved youth as participants. Specifically, Cox et al⁶⁰ reported that participants were grade seventh youth from schools in a Southern urban district in the U.S., while Cox et al⁶¹ discussed that participants were youth from grade 7 to 10, self-identified as Latinx and may not finish high school. They were from 3 schools, with 1 in the urban area and 2 in the rural area.⁶¹

Structure of interventions. For Familias Unidas,⁶³ parents averaged 24 sessions, and the intervention contained 3 stages: introducing parents to established connections between them, introducing parents to their children's worlds, and fostering parenting knowledge and skills for parents. Second, regarding the FPNG, Williams et al⁵⁸ and Marsiglia et al⁵⁹ provided

8 workshops, while Nagoshi et al⁶⁵ offered 10 group sessions. Although the number of sessions was different, the topic of each session was the same. Generally, topics involved introducing the Keepin' it REAL, children's world, communicating skills and parenting skills, and establishing support.^{58,59,65} After each session, parents would be given assignments for them to finish at home.^{58,59,65} Third, Allen et al⁶⁶ delivered the Family Skills Training Program, consisting of 8 sessions and topics about "parenting styles, adolescent development, parenting across cultures, communication, discipline, conflict resolution, monitoring and maintaining connection" (p. 241).⁶⁶ Fourth, Adelante, which was applied by Edberg et al,⁷¹ is a multi-aspect intervention model that has 8 components: youth capacity building, prevention sessions for youth, parent or family skills building, youth peer support activities, youth community engagement, media engagement, harnessing of community resources, and extra support for higher-risk youths and their families.⁷¹ This intervention model focuses on the whole community.⁷¹ Fifth, the Family Check-Up⁷³ was a 3-level intervention, which is based on the Drinker's Check-Up, and teachers recommend youth at high risk of substance use to this program.⁷³ The FCU involved 3 sessions: a 20 to 30-minute interview, a 60-minute assessment session, and a feedback session of at least 60 minutes.⁷³ During the interview, parents could tell the consultant about their concerns, and the consultant explained the stages of change to parents, encouraging them to process the assessment session.⁷³ Later, to promote parent-child communication, family members were encouraged to discuss 8 topics related to family activity, family problems, and the youth's growth.⁷³ During the feedback session, parents were informed about the results of the assessment session and whether further interventions were necessary.⁷³ Sixth, Cox et al⁶¹ applied a multi-state family-based intervention, ¡Unidos Se Puede! (United we can) / Juntos Para Una Mejor Educación (Together for better education), to prevent substance use among Latino immigrant youth via providing family workshops and sessions, youth coaching, and a youth group. Seventh, Martinez et al⁶⁷ adapted Nuestras Familias: Andando Entre Culturas. This intervention was established based on Parent Management Training, a family-based intervention while adding cultural expectations from targeting population.⁶⁷ Eighth, CAPAS-Youth is a culturally adapted intervention that contains sessions for both parents and youth, and assessments were implemented at baseline and post-intervention.⁶⁸

Mechanism of the intervention

The mechanism of the intervention in this study refers to elements of an intervention that help participants change their behaviors.⁷⁴ The mechanisms involved theory and methods of interventions, with eco-developmental theory^{58,59,62-67} being the most widely used theory and group discussion^{58,59,63,65,67,73} being the most common method.

Among the 8 included intervention models, 5 of them^{58,59,62-67,71,73} (ie, Familias Unidas, FPNG, Family Skills Training program, Adelante, FCU, and Nuestras Familias) reported theoretical frameworks, including eco-developmental theory, Community-based participatory research, Youth Positive theory, etiology of substance use, and social learning theory, with the eco-developmental theory being utilized in 4 models. In particular, eco-developmental theory informed the development of the Familias Unidas,⁶²⁻⁶⁴ FPNG,^{58,59,65} Family Skills Training Program,⁶⁶ and Nuestras Familias.⁶⁷ The eco-developmental theory is based on the premise that multi-level social systems could create both risk and protection for individuals, recognizing parents as the most important agency and resource to influence their children's behavior.^{58,59,62,65,67,69} It is based on the assumption that social interaction influences both risk and the provision of a protective environment for individuals.^{58,62,63,67} Therefore, substance use interventions were aimed at improving family function, which is the most important social interaction during adolescence.^{58,59,62,63,65,67} By engaging parents in their adolescents' school life, increasing the effectiveness of parent-youth communication, establishing a social network for parents, and increasing knowledge about harm brought about by substance use, parents can prevent behavioral problems among their children.^{58,59,62,65,69}

Five models, including the Familias Unidas,⁶³ FPNG,^{58,59,65} Family Check-Up,⁷³ ¡Unidos Se Puede! / Juntos Para Una Mejor Educación,^{60,61} and Nuestras Familias,⁶⁷ employed various methods to equip parents with parenting skills, communication strategies, and involvement in school activities, including group discussion, role-play, homework/home practice, reflection, and connection with counselors. Among these methods, group discussion was the most common method which was utilized in the Familias Unidas,⁶³ FPNG,^{58,59,65} Family Check-Up,⁷³ and Nuestras Familias,⁶⁷ indicating group discussion's function in galvanizing parents' learning process. For instance, Pantin et al⁶³ indicated that group discussion can enhance parents' understanding of the importance of keeping their children away from risky behavior and promoting their children's well-being. Research teams,^{58,59,65} which applied FPNG, showed that the combination of group discussion, role-playing, and reflection provided parents with opportunities to practice their knowledge and skills. In summary, for family-based intervention, it is essential to consider environmental factors and the family's influence on youth behavior and apply group discussion to promote learning.

Cultural adaptation of the interventions

Cultural adaptation is a process that makes interventions relevant to the target population's culture and values.⁷⁵ Cultural adaptation can contribute to participant engagement, delivery of intervention content, communication, and accommodation, and thus influences research results.^{59,65} A culturally adapted

intervention can be more effective in promoting protective factors for immigrant families by attending to the unique needs of the cultural group.^{58,65} Cultural adaptation involves surface structure and deep structure dimensions.^{65,75,76} Six out of the 8 included intervention models contained both surface-structured and deep-structured cultural adaptation.

Surface-structured cultural adaptation refers to modifying intervention information to align with observable parts of the target population's culture, such as selecting role models who are from the same or similar ethnic group, language, and foods.^{65,75,76} Seven intervention models applied surface-structured cultural adaptation. Specifically, Familias Unidas,^{58,59,65} FPNG,^{62,63} the Family Skills Training program,⁶⁶ ¡Unidos Se Puede!/ Juntos Para Una Mejor Educación^{60,61}, Nuestras Familias,⁶⁷ and the CAPAS⁶⁸ contained programs that were delivered via participants primary language, such as Burmese and Spanish, and all materials, such as surveys and parent workbooks, were translated into Burmese or Spanish. Among these interventions just listed, nuances existed between different research teams. For instance, Nagoshi et al⁶⁵ also organized culture-related meals for participants, Pantin et al⁶³ had facilitators who were from the same ethnic group as participants, and Rojas et al⁶⁴ only mentioned surveys were provided to participants with English or Spanish. For Family Check-Up, Véronneau et al⁷³ selected parent consultants from the same ethnic group as most parents.

Deep-structured cultural adaptation means addressing factors that could influence the target population's behavior, such as dealing with core values and beliefs.^{65,75,76} Five interventions, including FPNG,^{62,63} the Family Skills Training program,⁶⁶ ¡Unidos Se Puede!/ Juntos Para Una Mejor Educación,^{60,61} Nuestras Familias,⁶⁷ and the CAPAS⁶⁸ involved cultural norms, culture-related parenting, and traditional cultural values from parents' ethnic groups.

Effectiveness of interventions

In this section, since this is a scoping review and meta-analysis is for systematic review, the quality of interventions was not evaluated.^{77,78} The effectiveness of the interventions was measured by their ability to delay or reduce substance use^{58-62,64,67,69,71,73} and to enhance the knowledge of substance use among youth and parents.^{59,62,66,68,71} Among these studies, the most commonly used measure of effectiveness was the delay or reduction in substance use.^{58-62,64,67,69,71,73} Wave 3 of the project by Williams et al⁵⁸ showed that FPNG successfully delayed alcohol and cigarette use among students who enrolled in the Parent and Youth (PY) group and reduced consumption from Wave 1 to Wave 3. Youth in the PY group were more likely to have stronger anti-drug norms, which were negatively related to substance use.⁵⁹

Cordova et al⁶² found that the Familias Unidas intervention significantly reduced or delayed alcohol use among youth 90 days after the intervention. When comparing youth based

on their birthplace, Familias Unidas was more effective for those born in the United States than those born abroad.⁶² Parental monitoring was significantly increased in the intervention group, regardless of birthplace, and this was associated with reduced substance use.⁶² Pantin et al⁶⁹ demonstrated that Familias Unidas could increase parental investment, which was related to decreased behavior problems, including substance use. Rojas et al's⁶⁴ intervention significantly improved the family functioning of families with low family functioning at the baseline, which significantly reduced substance use over the following 90 days. For families with high family functioning, the interventions significantly reduced substance use over the following 90 days.⁶⁴

The intervention conducted by Allen et al⁶⁶ showed that parents perceived improvements among their children in both internalizing and externalizing behaviors, such as social withdrawal and rule-breaking, but not in substance use behaviors. Parents who originally had lower levels of traditional cultural endorsement showed greater changes in positive attachment, parental acceptance, and personal involvement after their participation.⁶⁶

Edberg et al⁷¹ carried out the Adelante program, whose effectiveness was indicated in many aspects. For instance, the youth's confidence and knowledge of sexual health were increased, and their connection to family and family competence was increased via family dinners.⁷¹ Parent's confidence, connection to the school, and contribution to the school were all increased by participating in the Parents as Leaders (PAL) program.⁷¹ Exposure to the intervention significantly reduced risky sexual behavior and substance use.⁷¹ Martinez et al⁶⁷ found that Nuestras Familias significantly improved parenting behaviors and delayed their children's drug and tobacco use. Véronneau et al⁷³ indicated that the intervention reduced the likelihood to use substances during adolescence, and reduced the use of marijuana (but not alcohol or tobacco) in early adulthood.

Cox et al⁶¹ found no significant changes in the likelihood of using alcohol and tobacco between the pre-test and post-test, while there was a significant increase in the likelihood of using illegal drugs. Cox et al⁶⁰ also confirmed that parents' involvement in schools was more likely to reduce substance use among their children, while mothers' involvement, in particular, could delay the initiation of alcohol use. School involvement was more significant in reducing girls' likelihood of using substances.⁶⁰ Parental involvement in school was negatively associated with the initiation of alcohol use by girls and marijuana use by boys.⁶⁰ In Parra-Cardona et al's⁶⁸ intervention, female youth's perceptions of the harms of alcohol and drug use were significantly increased.

Discussion

This scoping review analyzed the characteristics and processes of applying family-based substance use prevention interventions to immigrant youth and provided valuable information

into key elements of interventions targeted at diverse populations. The studies involved indicated that family-based intervention is suitable for addressing issues faced by immigrant families,⁷⁹⁻⁸¹ for whom the move to a new country can be challenging. Family members may have negative experiences, such as exposure to substance use and violence, an acculturation gap between parents and children, experience of poverty, racism, and discrimination, stress brought about by immigration, trauma, and acculturation; and loss of culture, language, and social support.⁷⁹⁻⁸³ Family-based interventions not only address these issues but also provide education and knowledge for parents to understand the cultural differences between their home country and host country, establish social support for immigrant families, and improve children's behavior and performance.⁷⁹⁻⁸¹

In terms of mechanism of interventions, our review indicates that the eco-developmental theory was widely applied in the development of family-based substance use prevention targeting immigrant families. The eco-developmental theory has been used in interventions that empower parents to manage their children's risky behavior, protecting them from substance use and unsafe sexual behavior, and HIV.⁸⁴⁻⁸⁶ It recognizes the influence of the environment on youth development, while emphasizing family's essential influence, as youth tend to have the most interaction with their family members.⁸⁴⁻⁸⁷ Given the changing nature of the environment, it is necessary to keep evaluating the environmental factors when developing family-based interventions.⁸⁴ The studies involved in this scoping review have applied active learning activities, such as role-play, group discussions, video watching, storytelling, and reflections, to promote parents' learning outcomes.^{58,59,63,66,71,73} According to constructivist learning theory, individuals learn new knowledge more effectively through positive and active activities, such as reflections.⁸⁸ Active learning methods effectively build skills and produce long-term effects for interventions.^{89,90} This study demonstrates several effective active learning methods for family-based interventions, which could be used for future intervention development.

This review reveals that cultural adaptation is an important step in tailoring interventions for immigrant populations. The components of cultural adaptation for a specific intervention could be decided by various stakeholders, experts, and researchers with previous experience in cultural adaptation for a similar population.^{45,91} Cultural adaptation of interventions is essential to address the unique needs of the population while preserving the fidelity of the original model.⁶⁵ The adaptations included in the reviewed interventions ranged from language use and translation of materials to the intervention's inherent values and norms.^{58-60,62,63,65,66,71,73} Such cultural adaptations indicate that adding, changing, or translating some parts of the intervention could build cultural relevance for the intervention, improving participant recruitment and support from community stakeholders.^{92,93} Specifically, cultural adaptation involves changing the intervention's language and content to match the target population, replacing relevant

images and cultural references, changing activities to make them culturally appropriate, and adding some culturally relevant content.⁹⁴ To make the intervention model more relevant to the audience, researchers could make informal cultural adaptations, such as adding more explanations and examples to concepts.⁴⁵

The studies included in this scoping review were deemed effective in providing parental support to prevent substance use among the youth. The overarching assumption of parental effectiveness can be attributed to the impact of children's socialization on parental values that oppose drug use.⁹⁵ This socialization involves the impartation of knowledge, skills, strategies, and practices aimed at preventing substance use, improving the parent-children relationship, and providing oversight of children's behaviors.⁹⁵⁻¹⁰⁰ The end goal of parental socialization is to foster trust and respect, and thus deepen the parent-child relationship.¹⁰¹ A healthy parent-child relationship is a vital ingredient to the prevention of substance use among youth.

Conclusion and Limitations

Currently, information related to family-based interventions for the prevention of substance use among Canadian immigrant youth remains sparse, and future research could implement family-based interventions and explore their effects on immigrant youth. For immigrant families, family-based intervention not only prevents substance use but also improves family function in a way that can reduce the negative influences brought by migration. Before implementing the intervention, it is necessary to evaluate the target population's needs and decide on cultural adaptation strategies (eg, language and role models). If youth have received the school-based intervention, researchers need to consider the relationship between this and family-based intervention—that is, parents' roles—when planning the intervention. To assess the long-term effect of the intervention, follow-up is important and can provide information for further refinement of the intervention.

This scoping review has 2 limitations. First, based on the inclusion criteria, it focused on articles published in English from 2001 to 2023. However, the inclusion criteria may limit the number of articles that were found. Some research teams may publish more than 1 article for the intervention and some of these articles might be published before 2001. Second, all the interventions that were included in this scoping review were implemented in the United States, although the inclusion criteria also allowed for the inclusion of studies implemented in Australia, Canada, and New Zealand. Other family-based intervention studies focused on immigrant youth in Europe and interventions that were not written in English were excluded. Such exclusions may influence the diversity of intervention models.

Acknowledgements

We thank librarian Kevin Read's help with the search strategy.

Author Contributions

YL conducted the literature search, drafted the method part, result in part, and discussion part, and edited the introduction part. Geoffrey M edited the whole paper and provided feedback for each round of revision. YF was responsible for drafting the introduction part and screening articles, and editing the paper. Ghazal M drafted the pinch table and edited the paper. BT and JS edited and proofread the paper. JA and MP provided feedback for the paper.

Ethics Approval Statement

This scoping review does not involve any human participants and ethical approval was not required.

Data Sharing Statement

As a scoping review, research findings are based on published literature. Therefore, no data was generated.

Supplemental Material

Supplemental material for this article is available online.

REFERENCES

- Health Canada. Canadian Tobacco Alcohol and Drugs (CTADS): 2013 summary. Government of Canada. Published 2015. Accessed November 30, 2022. <https://www.canada.ca/en/health-canada/services/canadian-alcohol-drugs-survey/2013-summary.html>
- Health Canada. Canadian Alcohol and Drugs Survey (CADS): summary of results for 2019. Government of Canada. Published 2021. Accessed November 30, 2022. <https://www.canada.ca/en/health-canada/services/canadian-alcohol-drugs-survey/2019-summary.html#a4>
- Statistics Canada. Alcohol and drug use in Canada. Statistics Canada; 2019.
- Health Canada. Canadian Tobacco, Alcohol and Drugs Survey (CTADS): summary of results for 2017. Government of Canada. Published 2021. Accessed November 30, 2022. <https://www.canada.ca/en/health-canada/services/canadian-alcohol-drugs-survey/2017-summary.html>
- Health Canada. Background document: Public consultation on strengthening Canada's approach to substance use issues. 2018. Accessed November 30, 2022. <https://www.canada.ca/content/dam/hc-sc/documents/services/substance-use/canadian-drugs-substances-strategy/strengthening-canada-approach-substance-use-issue/strengthening-canada-approach-substance-use-issue.pdf>
- Paglia-Boak A, Adlaf E. Substance use and harm in the general youth population. In: Racine S, Flight J, eds. *Substance Abuse in Canada: Youth in Focus*. Canadian Centre on Substance Abuse (CCSA); 2007:4-13. <https://www.ccsa.ca/sites/default/files/2019-04/ccsa-011521-2007-e.pdf>
- Health Canada. Summary of results for the Canadian student tobacco, alcohol and drugs survey 2018-2019. Government of Canada. Published 2019. Accessed December 1, 2022. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2018-2019-summary.html>
- Medina KL, Hanson KL, Schweinsburg AD, et al. Neuropsychological functioning in adolescent marijuana users: subtle deficits detectable after a month of abstinence. *J Int Neuropsychol Soc*. 2007;13:807-820.
- Nguemo Djometio JB, Buzuayew A, Nelson LE, et al. A scoping review of the prevalence of use of substance among African, Caribbean, and Black (ACB) people in Canada. *J Subst Use*. 2020;25:575-590.
- Hicks BM, Iacono WG, McGue M. Consequences of an adolescent onset and persistent course of alcohol dependence in men: adolescent risk factors and adult outcomes. *Alcohol Clin Exp Res*. 2010;34:819-833.
- Leos-Toro C, Rynard V, Murnaghan D, MacDonald JA, Hammond D. Trends in cannabis use over time among Canadian youth: 2004-2014. *Preventive Medicine*. 2019;118:30-37.
- Squeglia LM, Jacobus J, Tapert SF. The influence of substance use on adolescent brain development. *Clin EEG Neurosci*. 2009;40:31-38.
- Clark DB, Thatcher DL, Tapert SF. Alcohol, psychological dysregulation, and adolescent brain development. *Alcohol Clin Exp Res*. 2008;32:375-385.
- George T, Vaccarino F. Substance abuse in Canada: the effects of cannabis use during adolescence. 2015.
- Nardi FL, da Cunha SM, Bizarro L, Dell'Aglio DD. Uso de drogas e comportamento antissocial entre adolescentes de escolas públicas no Brasil. *Trends Psychiatry Psychother*. 2012;34:80-86.
- Statistics Canada. Immigration, place of birth, and citizenship – 2021 Census promotional material. Statistics Canada. Published 2022. Accessed December 2, 2022. <https://www.statcan.gc.ca/en/census/census-engagement/community-supporter/immigration>
- United Nations. Definitions— Refugees and Migrants. United Nations. Published 2023. Accessed December 3, 2022. <https://refugeesmigrants.un.org/definitions>
- United Nations Department of Economic and Social Affairs (UNDESA). Definition of Youth. United Nations. Accessed December 3, 2022. <https://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf>
- Korczak D, Kronick R. Substance Use and Immigrant Youth. Caring for Kids New to Canada. Published 2021. Accessed December 7, 2022. <https://kidsnew-tocanada.ca/mental-health/substance-use>
- Lim M, Stormshak EA, Falkenstein CA. Psychosocial adjustment and substance use of Cambodian and Vietnamese immigrant youth. *J Cross Cult Psychol*. 2011;42:104-119.
- Marsiglia FF, Kulis S, Luengo MÁ, Nieri T, Villar P. Immigrant advantage? Substance use among Latin American immigrant and native-born youth in Spain. *Ethn Health*. 2008;13:149-170.
- Perreira KM, Marchante AN, Schwartz SJ, et al. Stress and resilience: key correlates of mental health and substance use in the Hispanic community health study of Latino Youth. *J Immigr Minor Health*. 2019;21:4-13.
- Almeida J, Johnson RM, Matsumoto A, Godette DC. Substance use, generation and time in the United States: the modifying role of gender for immigrant urban adolescents. *Soc Sci Med*. 2012;75:2069-2075.
- Bui HN. Racial and ethnic differences in the immigrant paradox in substance use. *J Immigr Minor Health*. 2013;15:866-881.
- Halley Grigsby TJ, Forster M, Soto DW, Baezconde-Garbanati L, Unger JB. Problematic substance use among hispanic adolescents and young adults: implications for prevention efforts. *Subst Use Misuse*. 2014;49:1025-1038.
- Grant CN, Bélanger RE. Cannabis and Canada's children and youth. *Paediatr Child Health*. 2017;22:98-102.
- Baidoobonso S, Mokanan H, Meidinger L, et al. Final report from the Black, African and Caribbean Canadian health (BLACCH) study. 2012. Accessed December 10, 2022. <https://www.semanticscholar.org/paper/Final-Report-from-the-Black%2C-African-and-Caribbean-Baidoobonso-Mokanan/0e5433cb70cabb35b539585784f5751c9937d96>
- Brody GH, Kogan SM, Chen YF. Perceived discrimination and longitudinal increases in adolescent substance use: gender differences and mediational pathways. *Am J Public Health*. 2012;102:1006-1011.
- Poon C, Saewyc E, Chen W. Enacted stigma, problem substance use, and protective factors among Asian sexual minority youth in British Columbia. *Can J Commun Ment Health*. 2011;30:47-64.
- Centers for Disease Control and Prevention (CDC). Teen Substance Use & Risks. Centers for Disease Control and Prevention (CDC). Published 2020. Accessed December 14, 2022. <https://www.cdc.gov/ncbddd/fasd/features/teen-substance-use.html>
- Rankin J, Contenta S, Bailey A. Toronto marijuana arrests reveal 'startling' racial divide. *Toronto Star*. Published 2017. Accessed December 14, 2022. <https://www.thestar.com/news/insight/2017/07/06/toronto-marijuana-arrests-reveal-startling-racial-divide.html>
- Wei Q. Drug abuse among immigrant youth in Canada. *Int J Humanit Soc Sci*. 2021;15:814-818.
- Loke AY, Mak YW. Family process and peer influences on substance use by adolescents. *Int J Environ Res Public Health*. 2013;10:3868-3885.
- The National Association for the Education of Young Children. Developmentally appropriate practice in early childhood programs serving children from birth through age 8. 2009. Accessed December 20, 2022. <https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/PSDAP.pdf>
- Coatsworth JD, Pantin H, Szapocznik J. Familias unidas: A family-centered ecodevelopmental intervention to reduce risk for problem behavior among Hispanic adolescents. *Clin Child Fam Psychol Rev*. 2002;5:113-132.
- Marsiglia FF, Wu S, Ayers S, Weide A. Randomized effectiveness trial of a parent and youth combined intervention on the substance use norms of Latino middle school students. *J Subst Abuse Treat*. 2019;97:75-83.
- Villagrana M, Lee SY. Parental influence on adolescent cigarette, alcohol and marijuana use: a focus on Race/ethnicity and age. *Child Adolesc Social Work J*. 2018;35:107-118.
- Kumpfer KL, Alvarado R, Whiteside HO. Family-based interventions for substance use and misuse prevention. *Subst Use Misuse*. 2003;38:1759-1787.
- Sandler IN, Schoenfelder EN, Wolchik SA, MacKinnon DP. Long-term impact of prevention programs to promote effective parenting: lasting effects but uncertain processes. *Annu Rev Psychol*. 2011;62:299-329.

40. Fang L, Barnes-Ceeney K, Schinke SP. Substance use behavior among early-adolescent Asian American girls: the impact of psychological and family factors. *Women Health*. 2011;51:623-642.
41. Van Ryzin MJ, Roseth CJ, Fosco GM, Lee YK, Chen IC. A component-centered meta-analysis of family-based prevention programs for adolescent substance use. *Clin Psychol Rev*. 2016;45:72-80.
42. Fang L, Schinke SP. Two-year outcomes of a randomized, family-based substance use prevention trial for Asian American adolescent girls. *Psychol Addict Behav*. 2013;27:788-798.
43. Lescano CM, Brown LK, Raffaelli M, Lima LA. Cultural factors and family-based HIV prevention intervention for Latino youth. *J Pediatr Psychol*. 2009;34:1041-1052.
44. Horigian VE, Anderson AR, Szapocznik J. Family-based treatments for adolescent substance use. *Child Adolesc Psychiatr Clin N Am*. 2016;25:603-628.
45. Kumpfer K, Magalhães C, Xie J. Cultural adaptation and implementation of family evidence-based interventions with diverse populations. *Prev Sci*. 2017;18:649-659.
46. Parra-Cardona R, López-Zerón G, Leija SG, et al. A culturally adapted intervention for Mexican-origin parents of adolescents: the need to overtly address culture and discrimination in evidence-based practice. *Fam Process*. 2019;58:334-352.
47. Li Y, Maina G, Pandey M, Amoyaw J, Fang Y. Exploring family based immigrant youth substance use prevention programmes: a scoping review protocol. *BMJ Open*. 2021;11:e046766.
48. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol*. 2005;8:19-32.
49. Colquhoun HL, Jesus TS, O'Brien KK, et al. Study protocol for a scoping review on rehabilitation scoping reviews. *Clin Rehabil*. 2017;31:1249-1256.
50. Maggio LA, Larsen K, Thomas A, Costello JA, Artino AR Jr. Scoping reviews in medical education: a scoping review. *Med Educ*. 2021;55:689-700.
51. Sucharew H, Macaluso M. Progress notes: methods for research evidence synthesis: the scoping review approach. *J Hosp Med*. 2019;14:416-418.
52. Mak S, Thomas A. Steps for conducting a scoping review. *J Grad Med Educ*. 2022;14:565-567.
53. Maina G, Phaneuf T, Kennedy M, et al. School-based interventions for preventing substance use in indigenous children ages 7-13: a scoping review protocol. *BMJ Open*. 2020;10:e034032-e034036.
54. Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan-a web and mobile app for systematic reviews. *Syst Rev*. 2016;5:210-10.
55. Singer C. Canada rated best country in world for welcoming immigrants. Immigration.ca. Published 2021. Accessed December 27, 2022. <https://www.immigration.ca/canada-rated-best-country-in-world-for-welcoming-immigrants>
56. Thomas G, Davis C. Comparing the perceived serious and actual costs of substance abuse in Canada: analysis drawn from the 2004 Canadian addiction survey. 2007. Accessed December 27, 2022. https://www.ccsa.ca/sites/default/files/2019-05/ccsa-011350-2007_0.pdf
57. Canadian Centre on Substance Use and Addiction (CCSA). The impact of substance use disorders on hospital use. 2014.
58. Williams LR, Ayers S, Baldwin A, Marsiglia FF. Delaying youth substance-use initiation: A cluster randomized controlled trial of complementary youth and parenting interventions. *J Soc Social Work Res*. 2016;7:177-200.
59. Marsiglia FF, Ayers SL, Baldwin-White A, Booth J. Changing Latino adolescents' substance use norms and behaviors: the effects of synchronized youth and parent drug use prevention interventions. *Prev Sci*. 2016;17:1-12.
60. Cox RB, Washburn IJ, Croff JM, Ringwalt CL. Parental school-involvement and substance use? A novel family-based prevention strategy for Latino youth. *Fam Relat*. 2021;70:1178-1189.
61. Cox RB, Washburn I, Greder K, Sahbaz S, Lin H. Preventing substance use among Latino youth: initial results from a multistate family-based program focused on youth academic success. *Am J Drug Alcohol Abuse*. 2022;48:69-77.
62. Cordova D, Huang S, Pantin H, Prado G. Do the effects of a family intervention on alcohol and drug use vary by nativity status? *Psychol Addict Behav*. 2012;26:655-660.
63. Pantin H, Coatsworth JD, Feaster DJ, et al. Familias unidas: the efficacy of an intervention to promote parental investment in Hispanic immigrant families. *Prev Sci*. 2003;4:189-201.
64. Rojas LM, Brincks A, Brown EC, et al. Family functioning in Hispanic parents of adolescents: who benefits most from a family-based HIV and substance use preventive intervention? *Prev Sci*. 2023;24:249-258.
65. Nagoshi J, Nagoshi C, Small E, et al. Families preparing a new generation: adaptation of an adolescent substance use intervention for burmese refugee families. *J Soc Social Work Res*. 2018;9:615-635.
66. Allen ML, Hurtado GA, Yon KJ, et al. Feasibility of a parenting program to prevent substance use among Latino youth: a community-based participatory research study. *Am J Health Promot*. 2013;27:240-244.
67. Martinez CR Jr, Eddy JM, McClure HH, Cobb CL. Promoting strong Latino families within an emerging immigration context: results of a replication and extension trial of a culturally adapted preventive intervention. *Prev Sci*. 2022;23:283-294.
68. Parra-Cardona R, Vanderziel A, Fuentes-Balderrama J. The impact of a parent-based prevention intervention on Mexican-descent youths' perceptions of harm associated with drug use: differential intervention effects for male and female youths. *J Marital Fam Ther*. 2023;49:370-393.
69. Pantin H, Schwartz SJ, Sullivan S, Coatsworth JD, Szapocznik J. Preventing substance abuse in Hispanic immigrant adolescents: an ecodevelopmental, parent-centered approach. *Hisp J Behav Sci*. 2003;25:469-500.
70. Martinez O, Roth AM, Kelle G, Downs M, Rhodes SD. Adaptation and implementation of HoMBReS: a community-level, evidence-based HIV behavioral intervention for heterosexual Latino men in the midwestern United States. *AIDS Educ Prev*. 2014;26:68-80.
71. Edberg MC, Cleary SD, Andrade EL. Supplemental material for the adelante project: realities, challenges and successes in addressing health disparities among Central American immigrant youth. *Cult Divers Ethn Minor Psychol*. 2022;28:402-412. doi:10.1037/cdp0000368.supp
72. Mojica CM, Parra-Medina D, Yin Z, Akopian D, Esparza LA. Assessing media access and use among Latina adolescents to inform development of a physical activity promotion intervention incorporating text messaging. *Health Promot Pract*. 2014;15:548-555.
73. Véronneau MH, Dishion TJ, Connell AM, Kavanagh K. A randomized, controlled trial of the family check-up model in public secondary schools: examining links between parent engagement and substance use progressions from early adolescence to adulthood. *J Consult Clin Psychol*. 2016;84:526-543.
74. Lacouture A, Breton E, Guichard A, Ridde V. The concept of mechanism from a realist approach: a scoping review to facilitate its operationalization in public health program evaluation. *Implement Sci*. 2015;10:153-210.
75. Castro FG, Barrera M Jr, Holleran Steiker LK. Issues and challenges in the design of culturally adapted evidence-based interventions. *Annu Rev Clin Psychol*. 2010;6:213-239.
76. Hwang W-C. Cultural adaptations: a complex interplay between clinical and cultural issues. *Clin Psychol*. 2011;18:238-241.
77. Sargeant JM, O'Connor AM. Scoping reviews, systematic reviews, and meta-analysis: applications in veterinary medicine. *Front Vet Sci*. 2020;7:11-14.
78. Nordmann AJ, Kasenda B, Briel M. Meta-analyses: what they can and cannot do. *Swiss Med Wkly*. 2012;142:w13518.
79. Fawley-King K. A review of family-based mental health treatments that may be suitable for children in immigrant families involved in the child welfare system. *J Public Child Welf*. 2010;4:287-305.
80. Hamari L, Konttila J, Merikukka M, et al. Parent support programmes for families who are immigrants: a scoping review. *J Immigr Minor Health*. 2022;24:506-525.
81. Slobodin O, de Jong JT. Family interventions in traumatized immigrants and refugees: a systematic review. *Transcult Psychiatry*. 2015;52:723-742.
82. Bal A, Perzigian ABT. Evidence-based interventions for immigrant students experiencing behavioral and academic problems: a systematic review of the literature. *Educ Treat Children*. 2013;36:5-28.
83. Jolie SA, Onyeka OC, Torres S, et al. Violence, place, and strengthened space: a review of immigration stress, violence exposure, and intervention for immigrant Latinx youth and families. *Annu Rev Clin Psychol*. 2021;17:127-151.
84. Pantin H, Schwartz SJ, Sullivan S, Prado G, Szapocznik J. Ecodevelopmental HIV prevention programs for Hispanic adolescents. *Am J Orthopsychiatry*. 2004;74:545-558.
85. Magalhães C, Lloret D, Gervilla E, et al. A systematic review of community prevention studies empowering parents as vectors of prevention. *J Drug Alcohol Res*. 2020;9:1-11.
86. Ortega J, Huang S, Prado G. Applying ecodesvelopmental theory and the theory of reasoned action to understand HIV risk behaviors among Hispanic adolescents. *Hisp Health Care Int*. 2012;10:42-52.
87. Folk JB, Gill H, Ordorica C, et al. An ecodesvelopmental framework for engaging diverse youth in foster care and their families into technology-based family intervention research trials. *Front Digit Heal*. 2022;4:1-9.
88. Chuang S. The applications of constructivist learning theory and social learning theory on adult continuous development. *Perform Improv*. 2021;60:6-14.
89. Uemura K, Yamada M, Okamoto H. The effectiveness of an active learning program in promoting a healthy lifestyle among older adults with low health literacy: a randomized controlled trial. *Gerontology*. 2021;67:25-35.
90. Small SA, Cooney SM, O'Connor C. Evidence-informed program improvement: using principles of effectiveness to enhance the quality and impact of family-based prevention programs. *Fam Relat*. 2009;58:1-13.
91. von Thiele Schwarz U, Giannotta F, Neher M, Zetterlund J, Hasson H. Professionals' management of the fidelity-adaptation dilemma in the use of evidence-based interventions-an intervention study. *Implement Sci Commun*. 2021;2:31-39.
92. Parra Cardona JR, Domenech-Rodriguez M, Forgatch M, et al. Culturally adapting an evidence-based parenting intervention for Latino immigrants:

- the need to integrate fidelity and cultural relevance. *Fam Process*. 2012; 51:56-72.
93. Hopson LM, Holleran Steiker LK. Methodology for evaluating an adaptation of evidence-based drug abuse prevention in alternative schools. *Child Sch*. 2008;30:116-127.
94. O'Connor C, Small S, Cooney S. Program fidelity and adaptation: meeting local needs without compromising program effectiveness. *What Works, Wisconsin-Research to Practice Series*. 2007;4:1-6.
95. Lac A, Crano WD. Monitoring matters. *Perspect Psychol Sci*. 2009;4:578-586.
96. Clark HK, Shamblen SR, Ringwalt CL, Hanley S. Predicting high risk adolescents' substance use over time: the role of parental monitoring. *J Prim Prev*. 2012;33:67-77.
97. Adolfsen F, Strøm HK, Martinussen M, et al. Parent participation in alcohol prevention: evaluation of an alcohol prevention programme. *Nord Stud Alcohol Drugs*. 2017;34:456-470.
98. Glatz T, Koning IM. The outcomes of an alcohol prevention program on parents' rule setting and self-efficacy: a bidirectional model. *Prev Sci*. 2016;17: 377-385.
99. Armstrong E, Eggins E, Reid N, Harnett P, Dawe S. Parenting interventions for incarcerated parents to improve parenting knowledge and skills, parent well-being, and quality of the parent-child relationship: a systematic review and meta-analysis. *J Exp Criminol*. 2018;14:279-317.
100. Pasch KE, Stigler MH, Perry CL, Komro KA. Parents' and children's self report of parenting factors: how much do they agree and which is more strongly associated with early adolescent alcohol use? *Health Educ J*. 2010; 69:31-42.
101. Van Ryzin MJ, Fosco GM, Dishion TJ. Family and peer predictors of substance use from early adolescence to early adulthood: an 11-year prospective analysis. *Addict Behav*. 2012;37:1314-1324.