A Meta-Analysis of Culturally Adapted Social Emotional Learning Programs for Racially and Ethnically Minoritized Youth

By

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Abstract

Social-emotional learning (SEL) programs have been widely adopted in schools for their promising effects on improving student outcomes, including interpersonal skills, prosocial behaviors, positive self-concept, and academic outcomes. Existing research has shown mixed findings on SEL Programs and their effectiveness on racially and ethnically minoritized (REM) youth, and growing number of research focused on better meeting the needs of REM youth through cultural adaptation on SEL content materials or developing SEL curriculum that focuses on addressing the unique socialization and complex social factors that influence social-emotional learning experiences of REM youth. The present meta-analysis examined the overall effectiveness of culturally adapted SEL programs on REM youth on various student outcomes (i.e., racial/ethnic identity, SEL skills, attitudes, prosocial behavior, conduct problems, emotional distress, and substance use) and variation of effect sizes based on potential moderators (i.e., student demographic variables, type of cultural adaptation, type of interventionist, SAFE SEL criteria, and partnership with families/communities). The results indicated that there were significant posttest program effects that favored culturally adapted SEL programs on several student outcomes, including SEL skills, attitudes, prosocial behavior, and conduct problems. The effects on racial/ethnic identity, emotional distress, and substance use were not significant. Meta-regression results indicated that SEL programs that met the SAFE criteria and programs delivered by non-school staff members (e.g., researchers, school-based mental health clinicians) were linked to more favorable program outcomes. Conversely, demographic variables, different types of cultural adaptations, and partnerships did not significantly predict program effectiveness on overall student outcomes. Implications for practice and future directions are summarized.

Chapter One: Introduction and Literature Review

Social-Emotional Learning (SEL) has gained domestic and global popularity in the past two decades for its focus on building foundational skills to prevent mental health challenges and promote young people's well-being (Humphrey, 2013). All 50 states within the United States have adopted state-level standards for teaching preschoolers' SEL competencies (Dusenbury et al., 2018). Furthermore, the Collaborative for Academic, Social and Emotional Learning (CASEL) has partnered with more than 30 state education agencies that serve over 30 million preschools through 12th-grade students across the United States (Dusenbury et al., 2020). An increasing number of international studies have examined SEL for its effectiveness in other countries, including Singapore, the Philippines, Korea, Guatemala, and Pakistan, among others (Torrente et al., 2015). Findings from various meta-analyses (i.e., Durlak et al., 2011; Sklad et al., 2012; Taylor et al., 2017) support that SEL's impact on positive student outcomes was also found in international studies, with the immediate and long-term effectiveness of SEL outcomes observed in school-age populations in countries outside of North America.

With the widespread popularity and adoption of SEL standards in an increasingly diverse population in preschools and K–12 schools in the US and other countries, it becomes even more critical to better understand how SEL programs can be enhanced to meet the needs of diverse learners whose cultural identities and values may differ from mainstream US culture (Castro-Olivo, 2014; Jagers et al., 2018). A growing number of state education agencies have incorporated equity into their SEL standards (Dusenbury et al., 2019); however, only 10 out of 18 states with K–12 SEL standards have clearly addressed the issues of equity in their standards (Dusenbury et al., 2020). Additionally, similar issues were found across existing SEL programs as only eight out of 66 SEL studies were considered culturally responsive to meet the needs of

racially, ethnically, and linguistically diverse K-12 students, and none of the SEL programs addressed systemic racism that heavily impacts social-emotional experiences of students of color (Barnes, 2019). This is a particularly concerning finding given that a statewide survey of students' self-reported SEL, as well as sense of belonging and safety, were significantly lower among African American, Latinx, and students receiving special education services even when controlling for other student variables (e.g., gender, free/reduced priced lunch status, academic performance; Hough et al., 2017).

Considering what is known about the development of racially and ethnically minoritized (REM) youth, the centrality of socio-cultural factors in social-emotional development, and racial disparities in mental health care, it is important that strong preventative and culturally adapted school-based SEL programs are in place to promote positive development of REM youth. Development of such SEL programs may involve enhancing the general delivery of SEL programs to be more equitable (e.g., professional development of educators to study the effects of bias and culturally responsive pedagogies, strengthening family-school partnership) as well as cultural adaptations of SEL programs (e.g., language of delivery, adaptation of content, incorporation of ethnic values) to fit the specific cultural needs of different racial/ethnic groups.

This chapter includes a literature review on (a) SEL programs and their theoretical frameworks, (b) SEL development of REM youth, and (c) issues of SEL programs in meeting the needs of diverse youth. This chapter also provides an overview of cultural adaptation models in psychology research and previous studies that examined the effects of culturally adapted SEL programs. Findings from existing reviews and meta-analyses on SEL programs and culturally adapted interventions are summarized with particular attention to moderators of interest. The last section of the chapter describes the research questions and hypothesized results.

Overview of Social Emotional Learning (SEL) Programs

SEL first emerged in 1994 when scholars, practitioners, and child advocates, who later became founding members of the CASEL, discussed the need for schools to incorporate preventive approaches to promoting mental health (Elias et al., 1997; Greenberg et al., 2003). Ever since, CASEL has been a leading efforts toward advocating for holistic support of children (i.e., a *whole-child approach*), which not only prepares students as learners in acquiring academic skills but also fosters their positive social-emotional development. Rather than expecting children to naturally develop fundamental skills that are necessary to navigate social relationships, cope with stress, and effectively problem-solve, SEL instruction provides explicit teaching of these adaptive skills that are necessary for children to thrive as social constituents (Gueldner et al., 2020). Federal policies such as the Every Student Succeeds Act (ESSA, 2015) also reflected the importance of considering social-emotional skills (e.g., communication skills, healthy relationships) as part of student success (Curry, 2017). Likewise, ESSA further expanded the definition of student success and schools' responsibilities beyond the traditional focus on academic achievement to also include positive social-emotional development that is foundational for learning.

Grounded in the early works of Goleman and his book *Emotional Intelligence* (1995), CASEL identified five core competencies of SEL (Elias et al., 1997; CASEL, 2012; Weissberg et al., 2015), including

- *Self-awareness*: The ability to identify one's emotions, recognize the interconnectedness between thoughts, feelings, and actions, and have a positive mindset and self-efficacy.
- *Self-management*: The ability to appropriately regulate one's thoughts, emotions, and actions to achieve desired goals.

- *Social awareness*: The ability to understand others' perspectives with empathy and respect, understand social norms, and recognize resources that are available in their surroundings (e.g., family, school, community).
- *Relationship skills*: The ability to form healthy relationships with others, communicate effectively, and resolve conflict with others.
- *Responsible decision-making*: The ability to effectively make choices about one's behavior and social interactions in various settings.

These five domains capture essential cognitive, affective, and behavioral skills that focus on building resilience among students and preventing students from engaging in risky behaviors (Elias et al., 1997).

Systems Theory and CASEL Framework

Amongst several guiding theories (e.g., theories by Lewin, Bronfenbrenner, Ceci, Vygotsky, and Sameroff) that informed the early development of the SEL framework, Bronfenbrenner's (1979) ecological systems theory and Sameroff's (1975) transactional model of social development particularly highlighted the bidirectional influence of the child and their immediate and distal environmental contexts (i.e., ranging from *microsystems* such as school, family, and community to *macrosystem* such as laws/customs and values) on child's social and emotional development (Osher et al., 2016). As a result, the developers of SEL emphasized that SEL should be implemented as a framework that involves partnership and coordination of services across multiple settings that are proximal to youth (Gueldner et al., 2020; Weissberg et al., 2015; Zins et al., 2003). The CASEL framework (see Figure 1) lays out four major systems that are integral for helping students develop social-emotional competencies. These four systems include (a) the classroom, (b) schools, (c) families and caregivers, and (d) communities. In

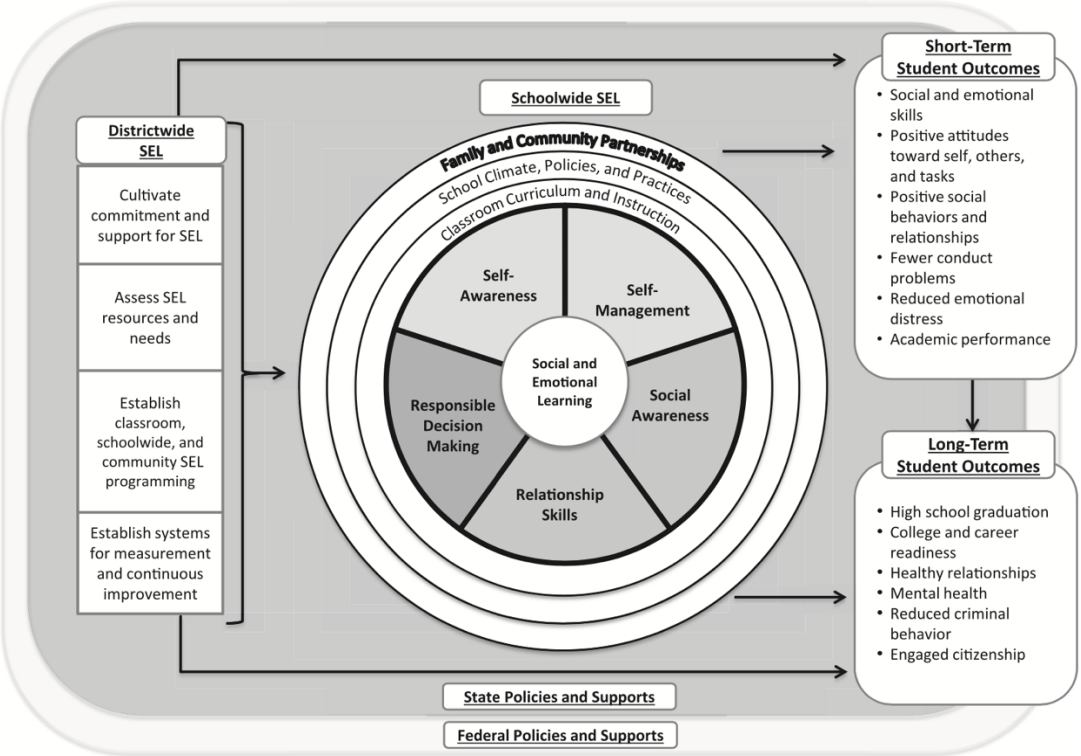
classrooms, educators can incorporate social-emotional skills in their core lesson content. In schools, there needs to be consistent and equitable discipline practices and adults' modeling of positive relationships. Outside of schools, families and caregivers are considered equal partners whose perspectives are critical in designing and implementing SEL programs and as key personnel who continue to reinforce social-emotional skills at home. Similarly, a school's partnership with community organizations allows consistent teaching of these skills outside of school in community settings (Weissberg et al., 2015).

In addition to these proximal settings (i.e., classroom, school, home, and community), CASEL emphasizes the importance of distal settings (e.g., school district, policies at the state and national level) and how these broader systems can create policies and provide institutional supports for schools to successfully implement SEL frameworks (Mahoney et al., 2021). District leaders play integral roles in increasing commitment to SEL programs across key stakeholders, providing organizational support, taking stock of available resources to align SEL with existing programs, and assisting with ongoing program evaluation for improvement (Elias et al., 2006; Mart et al., 2015; Oberle et al., 2016; Street, 2017).

In summary, these frameworks and guidelines consistently highlight foundational elements of SEL programs that lead to positive outcomes, including strong partnerships with families and community members and supportive contexts (e.g., school climate, program alignment with student needs, school initiatives, existing programs). The foundational framework based on an ecological perspective is equally important when conceptualizing social-emotional development of REM youth and informing the development and delivery of culturally adapted SEL programs for REM youth. Details are described further later in this chapter.

Figure 1

Conceptual model of SEL (Weissberg et al., 2015)



Benefits of SEL Programs

Numerous research findings, including meta-analytic studies (e.g., Durlak et al., 2011; Payton et al., 2008; Sklad et al., 2012; Taylor et al., 2017), have demonstrated that universal SEL programs tend to lead to improved student outcomes. These positive student outcomes extend across the domains of attitudes (e.g., greater sense of belonging, higher academic motivation, greater confidence in coping with stressors), behaviors (e.g., increase in prosocial behavior, decrease in aggressive behavior, fewer suspensions, greater academic participation), and school performance (e.g., greater academic achievement and meta-cognitive skills for learning; Zins, 2004). For example, a review of universal, targeted, and after-school SEL programs (n = 180 studies; Payton et al., 2008) demonstrated an increase in students' social-emotional skills, positive attitudes toward their self and others, prosocial behavior, and academic performances

(post-test effect sizes ranging between 0.23 and 0.60). Similarly, Durlak et al. (2011), in a large-scale meta-analysis of school-based SEL programs (n = 213; 270,034 participants between K–12) reported that there was a significant intervention effect (effect sizes range = 0.23 to 0.57) on various student outcomes, including SEL skills, attitude, positive social behaviors, conduct problems, emotional distress, and academic performance.

In a follow-up study by Taylor et al. (2017) that examined the 1–3 year follow-up effects of the SEL programs (n = 82; 97,406 participants between K–12) that were identified in Durlak et al. (2011), the effect sizes on students' social and emotional assets (i.e., SEL skills and attitudes) and their well-being (i.e., pro-social behavior, academic performance, conduct problems, emotional distress, and drug use) ranged between 0.13 and 0.33, suggesting a meaningful difference from those in the control conditions who did not participate in the SEL programs. The findings highlight the lasting effects of the SEL program on various student outcomes.

Nevertheless, some scholars caution that SEL programs that overlook cultural context and students' cultural diversity may not be as beneficial to REM youth, which then continues to perpetuate inequity (Duchesneau, 2020; Gregory & Fergus, 2017; Mahfouz & Anthony-Stevens, 2020; Rogers et al., 2022; Simmons, 2021). Various issues with SEL programs that inadequately address racial/ethnic cultural diversity are summarized in more detail below.

SEL Programs and Racially and Ethnically Minoritized (REM) Youth

As can be seen from ecological systems theory (Bronfenbrenner, 1979) and the CASEL SEL framework summarized above, there is a transactional relationship between youth and their developmental contexts that shape youth's social and emotional development. Nevertheless, many SEL programs inadequately address the unique needs of racially and ethnically diverse

youth in their program (Barnes, 2019; Dusenbury et al., 2020). These shortcomings are described in more detail below and includes an examination of developmental considerations for REM youth, including immigrant youth, challenges of current SEL programs, and Jagers et al.'s (2018) transformative SEL framework intended to account for the needs of diverse youth.

Developmental Considerations for REM Youth

With the wide acceptability of SEL programs and their associated impact on student outcomes, it is critical to consider whether SEL programs are appropriately attuned to the unique risk and resilience factors of REM youth. Even though there are universally shared developmental tasks that all children undergo (e.g., fostering meaningful social connections with others, growing independence and interdependence), REM youths may face unique challenges as members of a minoritized group (Motti-Stefanidi, 2017). To better understand social emotional development of REM youth, one should be familiar with the ethnic identity development among REM youth and its impact on social-emotional development. Additionally, adopting an ecological lens and understanding the surrounding contexts of children are essential, especially when considering the social-emotional development of REM youth whose families have immigrated from a different country.

Ethnic Identity Development of REM Youth. The core social-emotional competencies that SEL programs target include greater self-efficacy, positive attitudes towards oneself and others, social awareness, and inter- and intra-cultural relationship skills, all of which develop simultaneously with one's ethnic identity. Therefore, the consideration of REM youth's ethnic identity development is critical for developing and implementing responsive social-emotional learning programs.

Phinney (1996) defined ethnic identity as "a complex construct including a commitment and sense of belonging to one's ethnic group, positive evaluation of the group, interest in and knowledge about the group, and involvement in activities and traditions of the group" (p. 145). In her work, Phinney described three stages of ethnic identity development of minority groups, including (a) unexamined ethnic identity (i.e., lack of examination into one's ethnic identity and internalizing family or social messages at its face value), (b) moratorium or exploration (i.e., increased desire to ethnic history and traditions and awareness of racism), and (c) achieved ethnic identity (i.e., secure sense of self and ethnic group membership). In this process of development, Phinney emphasized the importance of school and community contexts, particularly the ways in which these contexts could potentially foster positive inter-group interactions and expose youth to different cultural traditions and values through curriculum and instruction. SEL programs are uniquely positioned to foster positive identity development among REM youth and create a positive and supporting learning environment for diverse students.

McMahon et al. (2002) found that a positive ethnic identity was associated with greater self-esteem, greater active coping, and fewer aggressive behavioral problems among African American youth living in urban areas. Similarly, Marsiglia et al., (2004) reported that positive ethnic identity predicted lower substance use and greater anti-drug norms.

Positive Adaptation of Immigrant Youth. For REM youth from immigrant backgrounds, positive adaptation requires adequate development across three dimensions, including developmental tasks, psychological adjustments, and acculturative tasks (Motti-Stefanidi & Masten, 2017). Motti-Stefanidi and Masten described that in addition to the demands of normative, age-salient developmental tasks (e.g., positive attachment with caregivers as toddlers, positive relationship with peers and compliance to rules as youth) and healthy

psychological adjustment (e.g., positive self-esteem, overall level of satisfaction with life, lack of psychological symptoms; Berry et al., 2006; Masten, 2014), REM youth from immigrant backgrounds undergo a unique acculturative process that requires them to adapt to the cultures of mainstream society while maintaining and practicing their own family's culture (Suárez-Orozco et al., 2018). Students who successfully bridge and navigate these acculturative tasks are reported to have higher psychological adjustment and developmental outcomes (Nguyen & Benet-Martinez, 2013).

Building on Motti-Stefanidi & Masten's model (2017), Suárez-Orozco et al. (2018) proposed an integrative risk and resilience model that illustrates multi-level factors that impact the adaption of culturally and linguistically diverse youth from immigrant backgrounds. These multiple factors include (a) microsystems (e.g., safe supportive school climate, quality of instruction, family cohesiveness, inter-generational conflicts), (b) socio-political climate (e.g., immigration policies, resettlement programs, attitudes towards immigrants), and (c) global factors (e.g., economic, social dynamics). The transactional relationship between the systems can influence youth's positive adaptation. For example, for youth coping with racial discrimination that is prevalent in social contexts, a positive school climate may foster a secure sense of identity or immigration policies may affect immigrant families' sense of safety.

Taken together, different theories and conceptual models relating to the development and adaptation of REM and immigrant youth highlight critical considerations for multi-level contexts and the critical need for culturally responsive SEL programs. The goals of SEL programs (e.g., enhancing students' self-efficacy and self-regulation) and SEL frameworks (e.g., systemic, integrative approach to enhancing student outcome) closely align with how to promote social-

emotional development among REM youth, with these models pointing toward key points of intervention.

Critical Issues Associated with SEL Programs and REM Youth

Previous literature has highlighted several challenges associated with SEL programs, which can be broadly categorized into (a) failure to acknowledge unique social-emotional experiences of diverse REM youth, (b) lack of teacher engagement, and (c) limited partnership with students and families. Even though the findings on the differential effectiveness of SEL programs on REM youth are mixed, these issues can potentially explain why some SEL programs were not as effective for different racial/ethnic groups.

Challenges of Current SEL Programs. Gregory and Fergus (2017) described that the reasons that schools with SEL programs are inadequately decreasing racial disparities in school discipline can be explained by two potential factors, including (a) a colorblind approach to SEL that overlooks critical issues such as power, privilege, and cultural differences; and (b) a failure of SEL programs in engaging teachers in developing and modeling culturally informed social-emotional competencies for their students. Similarly, Harris et al. (2022) argued that SEL programs that do not acknowledge discrimination and the unique experiences of Black boys (e.g., racialization, hypermasculinity, adultification) fail to understand how these students comprehend and regulate emotions. Additionally, similar themes emerged from a focus group study of 70 participants across eight different cities (Duchesneau, 2020) in most participating students and families of color reported that current SEL practices were not adequately addressing existing bias within schools and among educators and that there was a lack of student and family voices represented in teaching these social-emotional skills (Duchesneau, 2020). Although culturally responsive practices (e.g., challenging bias, increasing awareness and attention to

racial injustice, understanding of student socialization) are integral to improving REM youths' outcomes and addressing inequitable practices in schools, it is unclear whether such practices are prioritized and enacted in schools that implement SEL programs.

Differential Effectiveness of SEL Programs on REM Youth. Aggregation of REM youth into a single group (instead of disaggregating by different racial/ethnic groups) and insufficient reporting of race/ethnicity in research reports complicates the interpretation of SEL programs' effectiveness for REM youth; therefore, the differential effectiveness of SEL programs with REM youth remains inconclusive. Rowe and Trickett (2018) completed a review of SEL studies that were included in the meta-analysis by Durlak et al. (2011) and assessed how researchers reported diversity characteristics (e.g., gender, race, socioeconomic status [SES]) and whether there was evidence of differential SEL effectiveness based on student demographics. The authors found that about 64% of the studies reported students' race/ethnicity, including vague references to race such as "predominantly White." The authors were unable to draw any meaningful conclusions around the differential effectiveness of SEL programs by racial group not only due to lack of specificity in reporting by specific racial/ethnic groups, but also due to studies' tendency to merge the non-white groups into a single category to conduct a moderator analysis with sufficient sample size, which in turn fails to account for cultural diversity within the "non-white" group. The meta-analysis by Taylor and colleagues (2017) examined the follow-up effects of SEL programs based on student race/ethnicity. The estimated effect size of SEL programs was further separated by student racial groups for moderator analysis (i.e., predominantly White, predominantly students of color, and diverse student populations) and revealed no meaningful difference between the three groups, suggesting that White students and students of color equally benefited from SEL programs at follow-up. However, there was a

significant limitation in this method considering that all students of color were merged into a single group and different outcome categories were aggregated into one to account for the limited number of studies available to perform the analysis. This data aggregation approach has the potential to disguise differences in treatment responsiveness between the racial groups and between the outcome categories.

Nevertheless, there are a few pieces of evidence that suggest a lack of program generalizability to youth from different racial/ethnic backgrounds. For example, Dixon et al. (2007) conducted a study examining the effectiveness of the *Keepin' it REAL* substance use program that was created in multiple versions (i.e., Latino version, non-Latino version with values of African American and European American youth, and multicultural version that combines the Latino and Non-Latino version) to increase its effectiveness on diverse youth. When comparing the differential effectiveness of the multicultural version to American Indian youth living in urban areas and non-American Indian youth, the results indicated that substance use among American Indian youth who participated in the program was significantly higher compared to non-American Indian youth. In Ryan et al. (2016), the authors examined the effectiveness of the *Strong Kids* SEL curriculum on fourth and fifth-grade Black girls who were identified for targeted emotional and behavioral supports. In comparison to the findings from original studies with predominantly White students (e.g., between 80% and 98% White students in Gueldner & Merrell, 2011; Kramer et al., 2010; Merrell et al., 2008), Ryan et al. found an improvement in Black girls' social-emotional knowledge, but no intervention effects were found in their social-emotional skills (e.g., empathy, responsibility, self-regulation, self-competency) as measured by their teachers. However, it is unclear which factors or combination of factors could potentially explain the lack of improvement in Black girls' social-emotional skills (e.g., lack of

cultural sensitivity in the measurement tools, teacher bias in assessment, lack of cultural adaptation in the program). Bauer et al. (2007) examined differential effectiveness of a bullying prevention program and observed a decrease in victimization (e.g., physical and relational bullying) among White youth whereas the intervention effect was not significant for students of color.

Culturally Responsive SEL Approach

Culturally responsive SEL can be defined as "utilizing the lived experiences and frames of reference of students to reinforce and teach SEL competencies" (Barnes, 2019, p. 600) and provides many benefits. For example, ecologically and equity-oriented SEL allows educators to develop awareness around sociohistorical contexts that impact students' development and emotional-behavioral experiences and build positive relationships with students that can help reduce discipline disparities (Gregory & Fergus, 2017). Furthermore, adapting SEL programs to include different values and interests of culturally diverse students can increase student engagement (Barnes, 2019).

Culturally Responsive SEL Frameworks

Following Gregory and Fergus (2017), an increasing number of frameworks and guidelines have been published to illustrate how to better incorporate issues of equity within SEL (Dusenbury et al., 2019). One such example is *transformative SEL*, defined as "a process whereby students and teachers build strong, respectful relationships founded on an appreciation of similarities and differences, learn to critically examine root causes of inequity, and develop collaborative solutions to community and societal problems" (Jagers et al., 2018, p. 3). Jagers and his colleagues emphasized a need for the SEL framework to explicitly address issues such as power, oppression, privilege, and social justice to improve how the lessons are taught to students

from diverse backgrounds. The authors described how the current five SEL competencies are somewhat monolithic in terms of their understanding of culture and potentially overlook ways that systemic factors can impact the development of social-emotional competencies among culturally and linguistically diverse youth. Each of the five SEL competencies was further expanded to describe potential opportunities where SEL could be utilized to foster healthy social-emotional development of culturally diverse youth, as indicated in Table 1. As can be seen from the table, equipping educators with knowledge, awareness, and attitude around culturally responsive practice is an important aspect of equitable SEL.

Table 1

Considerations for Equitable SEL (Gregory & Fergus, 2017; Jagers et al., 2018)

Competency	Concerns that affect students' social-emotional competencies	Opportunities for enhancing SEL	Key roles of educators
Self-awareness	• Negative stereotypes and biases towards people of color negatively impacting REM students' self-concept and their racial/ethnic identity development.	• Promoting healthy self-awareness among REM youth through racial/ethnic identity exploration and challenging stereotype threat.	• Examining educators' bias towards the behaviors of REM youth and critically examine how they affect their decision-making.
Self-management	• Acculturation demands and stress placed on culturally and linguistically diverse youth to successfully navigate school life.	• Supporting students to understand acculturative tasks and discriminations as societal challenges that require both individual and collective solutions.	• Supporting REM youth around understanding the additional demands that is required for code-switching across different cultural contexts.
Social awareness	• Decreased sense of belonging and disengagement from school among students with minoritized identities (e.g., race/ethnicity, SES).	• Fostering social awareness that critically examines how issues of class and race manifest in different contexts. • Assisting students in recognizing privilege	• Moving away from colorblind-oriented thinking and better understanding sociocultural and historical factors (e.g., systemic

		and power dynamic and participate in creating learning environment that is safe and supportive.	racism) and how they impact REM youth.
Relationship skills	• Different understandings of cultural norms and misinterpretation of one's intentions potentially leading to interpersonal conflicts.	• Supporting students and teachers to develop culturally competent interpersonal skills by learning how to negotiate cultural differences and approach cultural differences with respect and cultural humility.	• Prioritizing strengthening authentic relationships and building trust with REM youth.
Responsible decision making	• Blaming REM to justify racial inequities and making decisions that are harmful (i.e., lack of action against injustice).	• Learning different ways to engage in advocacy to create community that is inclusive and equitable.	• Considering the potential effect on REM youth whenever new policies are in place.

Note. REM = Racially/ethnically minoritized.

Cultural Adaptation Frameworks

Whereas culturally responsive SEL frameworks provide ways to enhance the universal, systemic implementation of SEL programs, cultural adaptation frameworks can be useful for making specific cultural changes to the components of SEL programs. Adapted from Bernal et al. (2009), Benish et al. (2011) defined culturally adapted treatment as "a systematic modification of intervention protocols through which consideration of culture and context modifies treatment in accordance with clients' values, contexts, and worldviews" (p. 279). Hoffman (2009) highlighted a growing recognition in the field that sufficient adaptation of evidence-based programs and educators' awareness of cultural diversity are required for the successful delivery of SEL programs. Previous research findings (e.g., Bernal, 2006; Castro-

Olivo, 2014) and meta-analyses (e.g., Benish et al., 2011; Griner & Smith, 2006) have indicated that making cultural adaptations to intervention programs while maintaining their fidelity not only improved treatment outcomes but also increased acceptability and engagement of the programs compared to programs without adaptation.

Castro et al. (2004) illustrated several reasons explaining why evidence-based programs may not lead to positive intervention effects in real-world settings and suggested numerous ways to enhance congruence across these domains. These opportunities include (a) group characteristics (i.e., language, ethnicity, SES, urban-rural context, number and severity of risk factors, and family stability), (b) program delivery staff (i.e., type of staff, staff cultural competence, and staff cultural competence), and (c) administrative/community factors (i.e., community consultation, and community readiness). For example, the effectiveness of treatment programs may be compromised when clients are unable to understand the content (i.e., language), when there are different norms and beliefs due to cultural differences (i.e., ethnicity), when there are environmental factors that inhibit clients' participation (i.e., SES or family stability), when program delivery staff fails to consider cultural diversity (i.e., staff cultural competence), or when there is a lack of community support or partnership (i.e., community consultation; Castro et al., 2004). It is expected that evidence based SEL programs that make cultural adaptations can further enhance the programs' outcomes for REM youth.

One of the widely used cultural adaptation frameworks is the ecological validity framework (Bernal et al., 1995). This framework highlights the importance of matching individual's cultural context and intervention characteristics by making adaptations to eight dimensions of intervention, including (a) *language* (e.g., using language that is familiar to clients), (b) *persons* (e.g., considering the implications for having similar or different

race/ethnicity between therapist and client, considering therapists' own cultural identities and worldviews), (c) *metaphors* (e.g., using idioms, concepts, or symbols commonly used in client's culture), (d) *content* (e.g., including intervention materials that are reflective of unique cultural characteristics), (e) *concepts* (i.e., client's cultural values and beliefs are considered when conceptualizing and describing presenting problems), (f) *goals* (i.e., therapeutic goals align with cultural values), (g) *methods* (i.e., using treatment procedure and techniques that are compatible with client's culture), and (h) *context* (i.e., presenting problems are considered in respect to client's environment and social demands that can include acculturative stress, migration, financial needs). These different dimensions of psychosocial interventions with individuals from REM groups offer a strong framework for practitioners to consider when implementing SEL programs for specific racial and ethnic groups (Castro-Olivo et al., 2020).

Application of Cultural Adaptations to SEL Programs

Even though experiences of racial discrimination negatively impact students' self-esteem, perceived connectedness to school, and lower academic engagement (Bottiani et al., 2020; Dotterer et al., 2009; Smalls et al., 2007), Malone et al. (2021) suggested that culturally responsive strategies within a multi-tiered system of supports (MTSS) can foster positive identity development among REM youth and improve the sense of belonging at school. At the universal level of MTSS, this could be seen as enhancing equity and adapting intervention programs to fit the needs of REM youth at a more targeted level. For example, Aston and Graves (2016) and Aston et al. (2017) adapted *Sisters of Nia*, which is a community-based cultural empowerment program for African American women focusing on building positive ethnic identity and relationships. The program was adapted to fit the needs of Black girls who often experience negative racial characterization and harsh discipline. The pilot study (i.e., Aston & Graves, 2016)

included five Black girls in fifth grade who demonstrated significant improvement in youth's racial identity ($t = 4.96$, $p = 0.008$) and social-emotional functioning ($t = -4.61$, $p = 0.010$); the single case design study (i.e., Aston et al., 2017) with four Black girls found a moderate decrease in verbal aggression (weighted Tau-U = 0.88).

Additionally, Cramer and Castro-Olivo (2016) examined the immediate and follow-up effects of culturally adapted Strong Teens SEL curriculum to predominantly Latinx students and assessed the program's effectiveness on students' self-rated resiliency and internalizing symptoms. The authors utilized the ecological validity framework by Bernal et al. (1995) and adapted all eight dimensions described in the framework to make changes to the existing SEL curriculum (e.g., students can choose to receive intervention in Spanish or English, numerous opportunities for students to reflect on their own cultural values and traditions when understanding SEL curriculum and applying SEL skills, consideration for acculturative demands, family contexts). The authors found significant changes in student's pre-intervention and immediate post-intervention resiliency scores (ES = 0.2), but they did not find significant changes in students' internalizing symptoms perhaps due to their low symptom endorsement at baseline. Additionally, the results from the assessment of social validity indicated that almost all students reported that they enjoyed the program and that it taught useful skills to students.

Previous Reviews, Meta-analyses, and Potential Moderators

Systematic reviews and meta-analyses can inform the current state of research on the topic of culturally adapted SEL programs and possible moderating variables that factor into effective SEL programs. These reviews also provide guidance regarding directions for future research.

Findings from Systematic Reviews

Previous reviews examining culturally adapted SEL programs have highlighted a dearth of SEL programs that were deemed culturally responsive. McCallops et al. (2019) and Barnes (2019) completed systematic reviews of SEL studies implemented in urban schools and found a limited number of SEL programs that made cultural adaptations. In McCallops et al. (2019), only five out of 51 studies (conducted in and outside of the US and published between 2008 to 2018) used culturally responsive strategies, and Barnes (2019) found that nine out of 66 studies (conducted in the US and published between 1996 to 2016) examined SEL programs that were culturally responsive. Both reviews highlighted that there was a lack of SEL programs addressing socio-cultural contexts (e.g., racial discrimination, addressing acculturative stress) even though these issues heavily affect youths' social-emotional experiences. Nevertheless, both reviews were limited to SEL programs implemented in urban areas and neither review analyzed the different types of cultural adaptations that were considered in the studies, nor did they examine the effectiveness of programs with meta-analytic methods.

Additionally, Brown et al. (2018) conducted a systematic review of school-based mental health programs (n = 10) implemented with REM youth to examine cultural adaptation strategies frequently used in the field and the degree to which researchers follow cultural adaptation frameworks. Using prominent cultural adaptation frameworks (e.g., Backer, 2002; Bernal et al., 1995; Castro et al., 2004), Brown et al. (2018) developed a coding scheme for examining how studies have made adaptations to program delivery, implementation, and content. The frequently used cultural adaptation strategies included partnerships with key stakeholders in program development, but there is an overall lack of research on culturally adapted mental health interventions for youth. Like McCallops et al. (2019) and Barnes (2019), Brown et al. did not

assess the overall effectiveness of the SEL programs and further suggested future research will need to focus on examining systematic procedures for making cultural adaptations and the effectiveness of those procedures.

Findings from Meta-analyses

Based on the search of existing literature, there have not been any meta-analyses that examined the effectiveness culturally adapted SEL programs; however, a few meta-analyses have examined effectiveness of culturally adapted psychotherapies (i.e., mental health interventions; Benish et al., 2011; Griner & Smith, 2006) and a few have examined effectiveness of SEL programs (Durlak et al., 2011; Payton et al., 2008; Taylor et al., 2017). The section below summarizes a list of different potential moderators that were further examined in the present study.

Moderator #1: Demographic Characteristics. Griner and Smith (2006) completed a large-scale meta-analysis that examined the effects of culturally adapted mental health interventions and possible moderation effects by participant characteristics (e.g., gender, age group, race/ethnicity, acculturation level). The findings supported culturally adapted interventions (d = 0.45 and d = 0.40 for experimental or quasi-experimental designs only, respectively). A moderating effect was found between the client's ethnicity and age, with Hispanic/Latinx adults benefitting most from cultural adaptation. The authors suggested that adults may have lower acculturation levels as compared to children and adolescents, thus perhaps resulting in greater benefits from cultural adaptations (Griner & Smith, 2006). Smith et al. (2011) found that although the culturally adapted mental health intervention that they used was effective across different racial/ethnic groups, Asian American participants who received culturally adapted mental health intervention had a significantly higher responsiveness to the treatment (d =

0.47) compared to African American participants (d = 0.47), Hispanic/Latino participants (d = 0.47), and Native American participants (d = 0.22).

Moderator #2: Cultural Adaptation. Benish et al.'s (2011) meta-analysis addressed the limitations found in Griner and Smith's (2006) earlier meta-analysis by directly comparing culturally adapted mental health interventions to the same evidence-based, established interventions that were not culturally adapted (i.e., "bona fide, unadapted therapies"; p. 280). The meta-analysis also examined whether therapists' efforts to better understand clients' cultural beliefs and conceptualizations of mental health problems (i.e., etiology, progression, and manifestation) enhanced treatment outcomes (similar to the dimension of "concept" in an ecological validity framework). The findings supported that culturally adapted mental health treatments were more effective than the original evidence-based intervention that was not culturally adapted (d = 0.32), and exploration of clients' beliefs around mental health illness was found to be the single most important moderator (d = 0.21) compared to other forms of cultural adaptations (e.g., language, therapist with shared race/ethnicity). However, it was uncertain whether the same cultural adaptation that had been found to be effective in Benish et al. (2011) would be most effective for younger populations with developmental differences and populations with various clinical presentations (ranging from REM youth who are typically developing to those with more significant clinical need) whom SEL programs typically target. In Smith et al.'s (2011) meta-analysis, the greater number of cultural adaptations made to the mental health intervention (using Bernal's eight dimensions of the ecological validity model) was associated with greater effectiveness compared to programs that had a fewer number of cultural adaptations (r = 0.28). Their analysis further revealed that the adaptations to clients' goals (i.e., therapeutic goals align with cultural values; b = 0.29, p = 0.02) and use of culturally relevant metaphors and

symbols ($b = 0.37$, $p = 0.02$) were the two dimensions from the ecological validity model that were associated with greater effectiveness.

Moderator #3: Interventionist. In Payton et al.'s (2008) meta-analytic review, the classroom-based SEL programs delivered by teachers showed slightly larger effects on student outcomes in the following outcome categories when compared to programs delivered by researchers: attitudes toward self and others (0.24 vs. 0.14), pro-social behavior (0.27 vs. 0.21), conduct problems (0.21 vs. 0.17), emotional distress (0.23 vs. 0.17), and academic performance (0.43 vs. 0.01). The findings show that there was a documented high effectiveness of SEL programs delivered by classroom teachers, who are important figures for students' social-emotional development within their immediate microsystem and could potentially continue reinforcing the learning after the completion of the intervention.

Moderator #4: SAFE Criteria. Both Payton et al. (2008) and Durlak et al. (2011) assessed whether SEL programs were adequately meeting the *SAFE criteria*, which is an essential component of an effective SEL program. The acronym stands for (a) sequenced (e.g., step-by-step, sequential approach to skill learning), (b) active (e.g., using role-plays and other active forms of practice with feedback), (c) focused (e.g., sufficient time is provided to learn social-emotional skills), and (d) explicit (e.g., specific skills are targeted). The effectiveness of the SEL programs as measured in a meta-analysis of SEL programs (Payton et al., 2008) was more profound for the studies that adhered to the SAFE criteria (SAFE effect size range = 0.25–0.69, non-SAFE effect size range = 0.02–0.23). Durlak et al. (2011) found a consistent pattern of significant effect size differences when comparing SAFE programs and non-SAFE programs on all of the different outcomes: SEL skills (ES = 0.69 vs. 0.01 for SAFE and non-SAFE, respectively), Attitudes (ES = 0.24 vs. 0.16), Social behavior (ES = 0.28 vs. 0.02), Conduct

problems (ES = 0.25 vs. 0.16), Emotional distress (ES = 0.28 vs. 0.18), and Academic performance (ES = 0.28 vs. 0.26).

Moderator #5: Partnership with Families and Community. The importance of partnership with family and community members has been highlighted in several literatures discussing equitable SEL programs (e.g., Duchesneau, 2020; Jones, Bailey et al., 2018). Considering the CASEL framework as well as the developmental framework for REM youth suggested by developmental psychologists (e.g., Suárez-Orozco et al., 2018) that highlight the transactional relationship between children's immediate and distal environment and children, it is expected that partnership with family and community will lead to greater effectiveness of SEL programs.

Summary

SEL programs are designed to provide youth with the critical skills necessary to thrive socially and academically, and their benefits are linked with short-term and long-term outcomes, highlighting the benefits of preventive, strength-based approaches. However, concerns have been raised around the cultural responsiveness of existing SEL programs and their lack of attention to sociocultural and political contexts that heavily affect REM youth's social-emotional development and inter- intra-personal relationships. SEL programs attended to cultural responsiveness framework (e.g., transformative SEL) to effectively engage with students' cultural values, beliefs, and contexts of development, prioritizing the educators' development of culturally responsive strategies and social-emotional competencies, and partnership with families and community organizations. Additionally, cultural adaptation frameworks commonly utilized across the field of psychology further provide guidelines on how to improve current SEL practices to meet the cultural realities of REM youth.

Rationale for the Study

The present meta-analysis sought to answer questions that have not yet been explored in previous research. Specifically, the meta-analysis was intended to examine the effectiveness of culturally adapted SEL programs on various student outcomes (i.e., racial/ethnic identity, social and emotional skills, attitudes toward self, school, and others, positive social behavior, conduct problems, emotional distress, academic performance, and substance use) and used meta-regression analysis to examine whether there are differences in the effects of culturally adapted SEL programs based on potential moderators, including participant/sample characteristics (e.g., race/ethnicity, age, acculturation level, ELL status, clinically at risk), components of cultural adaptations, interventionist characteristic, SAFE criteria, and partnership with families and communities. Several reviews (e.g., Barnes, 2019; McCallops et al., 2019) and meta-analyses (e.g., Durlak et al., 2011; Taylor et al., 2017) have been conducted to examine the effects of universal SEL programs on student outcomes, yet there have not been any systematic reviews or meta-analyses examining the cultural responsiveness of the SEL programs. Similarly, several meta-analyses (e.g., Benish et al., 2011; Griner & Smith, 2006; Smith et al., 2011) have been conducted to examine the effects of culturally adapted mental health interventions on REM populations; however, there are no meta-analyses that have assessed culturally adapted SEL programs with REM youth.

Research Questions and Hypothesized Results

Research Questions

The present meta-analysis examined the effectiveness of culturally adapted SEL programs delivered to racially/ethnically minoritized youth. Specifically, the study explored the following research questions:

Research Question #1. What is the overall effectiveness of culturally adapted SEL programs for racially/ethnically minoritized youth on various youth outcomes (i.e., racial/ethnic identity, social and emotional skills, attitudes toward self, school, and others, positive social behavior, conduct problems, emotional distress, and substance use)?

Research Question #2. To what extent do the obtained effects on youth outcomes vary based on:

(a) student demographic characteristics (e.g., race/ethnicity, age, gender, level of acculturation, English Language Learner (ELL) status, clinical risk)?

(b) different components of cultural adaptation (i.e., language, persons, metaphors/content/concepts, goals/contexts, and methods)?

(c) type of interventionist (e.g., researcher, teacher/school staff, school-based mental health provider, community mental health, other)?

(d) SAFE criteria (e.g., meeting all SAFE criteria vs. not meeting at least one criterion)?

(e) partnership with families or community members?

Hypothesized Results

Research Question #1. It was hypothesized that significant post-program effects will favor culturally adapted SEL programs over controls across the eight student outcome categories (i.e., racial/ethnic identity, social and emotional skills, attitudes toward self, school, and others, positive social behavior, conduct problems, emotional distress, academic performance, and substance use) as found in the previous meta-analyses that examined the effectiveness of social-emotional programs (Durlak et al., 2011; Payton et al. 2008; Taylor et al., 2017). Although existing meta-analyses examining culturally adapted psychotherapies (e.g., Griner & Smith, 2006) have found limited effectiveness of culturally adapted therapies for younger clients

compared to adults, numerous qualitative and quantitative studies have documented findings in favor of social-emotional skills training that is sensitive to students' unique socialization, cultural values, and development in socio-political context (e.g., Aston & Graves; 2016; Cramer & Castro-Olivo, 2016; Duchesneau, 2020; Ryan et al., 2016).

Research Question #2. The following hypotheses were made for each of Research Question's 2 sub-questions:

(a) Student demographic characteristics (i.e., race/ethnicity, age, gender, level of acculturation, and clinical risk): Based on a previous meta-analysis (Griner & Smith, 2006) that examined the effects of culturally adapted interventions, it was hypothesized that the effects of culturally adapted SEL programs would be greater for students with lower levels of acculturation when controlling for age, race/ethnicity, gender, and clinical risk. It was predicted that students who identify themselves as recent immigrants or whose cultural background is significantly discrepant from the mainstream culture may benefit more from cultural adaptations compared to those who have a higher level of acculturation or adjustment in the mainstream culture.

(b) Types of cultural adaptation (i.e., language, persons, metaphors/content/concepts, goals/contexts, and methods): This exploratory question aimed to study whether certain types of cultural adaptations would lead to greater responsiveness to the program. It was hypothesized that adaptations that could be described as deep structure adaptations (e.g., involve changes in the program with respect to youth's social, psychological, and environmental context) similar to adaptations in goals and contexts may lead to more favorable program outcomes compared to surface structure

adaptations (e.g., involve changes in more superficial and observable domains such as language, persons; Castro et al., 2010).

(c) Type of interventionist (e.g., researcher, teacher/school staff, school-based mental health provider, community mental health, other): It was hypothesized that culturally adapted programs that were delivered by teacher and school staff would lead to more favorable program outcome sat the posttest compared to other interventionists (e.g., researcher, school-based mental health provider, community mental health provider) as previously found in different meta-analyses (e.g., Payton et al., 2008). It was predicted that teachers and school staff have the advantage of being familiar adults to the students and that they are likely to reinforce the lesson content outside of the structured intervention period throughout the study period.

(d) SAFE criteria (e.g., meeting all SAFE criteria vs. not meeting at least one criterion): It was hypothesized that the programs that meet all four SAFE elements would yield greater intervention effects as demonstrated in previous meta-analyses that have examined the effectiveness of school-based social-emotional learning programs (e.g., Durlak et al., 2011; Payton et al., 2008).

(e) Partnership with families and/or community members: It was hypothesized that SEL programs that incorporate partnerships with families and/or community partners (e.g., incorporates students' and families' voice when designing and implementing programs, partnering with community liaisons to inform program development) would lead to more favorable program outcomes compared to the programs that do not incorporate partnerships with such key stakeholders.

Chapter Two: Methods

The present meta-analysis involved an extensive process of identifying relevant records through various literature search procedures, screening of articles (i.e., initially screening title and abstract of records, then reviewing the full text of articles that passed the initial screening), coding of articles, analyzing the effect sizes, and performing moderator analysis on the variables of interest. Each of these steps is described more below.

Literature Search Procedures

Relevant records were identified through the following search methods: (a) database search, (b) review of records published on the CASEL website, (c) reference search of systematic reviews, (d) review of research registers, (e) review of online conference repositories, (f) author contact, and (g) reference search of included studies. An initial electronic search of online databases was completed in April 2022 within the following nine databases: *Academic Research Premier, Education Research Complete, SocINDEX with Full Text, Professional Development Collection, ProQuest Dissertations & Theses Global, Sociological Abstracts, PsycINFO, Web of Science, and ERIC.* These databases were identified as primary databases in the fields of sociology/social sciences, social work, psychology, and education. The search resulted in 1,388 records eligible for initial screening. Upon identifying various limitations to the initial database search strategy (i.e., some of the key studies from the preliminary search were not identified) performed in April 2022, an additional search was conducted in June 2022 with updated search terms and yielded 10,721 records. The search strategies used in each database search are summarized in Table 2 and Table 3. The search terms were adapted from those that were used in a previous meta-analysis of culturally adapted psychotherapies (i.e., Benish et al., 2011). The search terms were modified to specifically focus on SEL programs designed for children and adolescents in K–12 schools (under 18 years old). The search terms were separated by Boolean

operators to locate research studies that examined culturally adapted SEL programs for racially and ethnically minoritized youth. The search was limited to studies that were published in the English language between 2000 and 2022 considering that the term social-emotional learning has only emerged in the last 20 years (Osher et al., 2016) and that the cultural adaptation of SEL program was even more recent. Finally, when performing the database search, irrelevant descriptors and subject headings (e.g., “qualitative research,” “focus groups,” “thematic analysis,” “college students,” “universities & colleges,” and “higher education”) were excluded when exporting the search results. After removing the duplicates, a total of 8,042 records were eligible for initial screening.

Table 2

Initial Database Search (April 2022)

Search Terms	Search Limit
"social emotional learning" OR "social and emotional learning" OR "social emotional skill*" OR "social and emotional skill*" OR "social emotional program*" OR "social and emotional program*" OR "social emotional intervention*" OR "social and emotional intervention*"	Abstract
cultur* OR ethn* OR multicultur* OR race OR racial OR minorit* OR Latin* OR Hispanic OR Afr* OR black OR Asian* OR Desi OR Pacific OR Carib* OR “Native American” OR indigenous OR Indian OR multiracial	Abstract
child* OR youth* OR adolescen* OR teen* OR student*	Abstract

Table 3

Follow-Up Database Search (June 2022)

Search Terms	Search Limit[a]
cultur* OR ethn* OR multicultur* OR race OR racial OR minorit* OR Latin* OR Hispanic OR Afr* OR black OR Asian* OR Pacific OR Carib* OR “Native American” OR indigenous OR multiracial	All Text
social OR emotion* OR behavio* OR prevent*	Abstract
child* OR youth* OR adolescen* OR teen* OR student*	Abstract

program* OR curricul*	Abstract
effect* OR assess* OR outcome* OR result* OR evaluat* OR efficac* OR impact* OR feasib* OR finding*	Abstract
participant*	All Text
experimental OR random* OR control* OR "intervention group" OR "treatment group"	All Text
cultur*	All Text
lesson* OR session* OR manual*	All Text
school*	All Text

[a] The search limit was slightly modified for ProQuest Dissertation & Theses due to a high volume of studies identified from the database (i.e., around 30,000 records). For ProQuest Dissertation & Theses, few additional sets of search terms (e.g., search terms related to culture, study design, and school) were limited to appear in the Abstract only.

Second, SEL publications on the CASEL website were reviewed to identify relevant records using the embedded filters (e.g., formats, topics, date range) and yielded 11 records eligible for initial screening. Third, a reference search was completed for three systematic reviews of culturally responsive SEL programs (i.e., Barnes, 2019; Brown et al., 2018; McCallops et al., 2019). A total of 123 records cited in the three reviews were eligible for initial screening. Fourth, to identify grey literature and unpublished studies that assess the effectiveness of culturally adapted SEL programs for racially and ethnically minoritized youth, the search of Registry of Efficacy and Effectiveness Studies (REES) and the American Education Research Association (AERA) online paper repository were completed in April 2023. When reviewing REES, the search limit was set to “Retrospective registration” to filter out records that were registered prior to any of the following stages: the implementation of the intervention, the collection of outcome data, and the analysis of outcome data. The search resulted in 74 studies, of which only four studies were eligible for further review. Upon review, all studies were

determined irrelevant to the present study as none of the studies made any reference to "culture". When reviewing the AERA online paper repository, "social-emotional learning" was used as a search term to identify relevant records, resulting in 241 records. Records without outcomes data were excluded from the review (n = 151). Additionally, an ancestral search (i.e., reference search) was completed on the studies that were deemed eligible for coding after the full-text screening of articles (n = 48). The search yielded 972 records (937 after duplicates were removed) eligible for initial screening of the title and abstract. Lastly, experts on culturally adapted SEL intervention were contacted via email to request any additional publications that were not already identified from the search. Experts on the topic were defined as any authors with two or more publications that were included after the full-text screening. Emails were sent to eight authors, and the response rate was 50% (n = 4). From the author contact, seven records were identified to be eligible for initial screening.

Altogether, a total of 13,537 articles were identified through the different search methods described above. After removing duplicates (n = 4,124), 9,413 articles were eligible for screening. The breakdown of several identified studies through each search method can be found in the PRISMA flowchart (see Appendix A).

Screening of Records

To identify relevant records to be included in the meta-analysis, 9,413 articles were screened. The screening of articles involved two stages (i.e., title and abstract screening and full-text screening). At the initial screening stage (i.e., the title and abstract screening), Covidence, which is a web-based systematic review tool, was used to scan the title and abstract of each article and quickly determine which were irrelevant focusing on the key exclusion criteria listed below. After the initial screening of the title and abstract of each article, 8,524 articles were

removed, and 889 articles were eligible for the second stage of screening (i.e., full-text screening), which were retrieved and made accessible through the Zotero citation manager. The full-text screening was completed using the same inclusion and exclusion criteria and a Microsoft Excel sheet that provided a convenient way to document whether an article was meeting all the inclusion criteria and to document any unique notes about the article.

Inclusion and Exclusion Criteria

A set of inclusion criteria was developed to guide both stages of screening. This set of criteria was developed to align with PICOS (i.e., Participants, Interventions, Comparisons, Outcomes, and Study design; Schardt et al., 2007) criteria and was used to determine if the identified records were eligible for the present meta-analysis:

1. The study participants were children and adolescents in a K–12 educational setting in the US (youth ages 18 years or younger).
2. The study involved implementing a school based SEL program that made cultural adaptations to better meet the needs of racially and ethnically minoritized youth.
3. The study collected student outcomes (e.g., racial/ethnic identity, social-emotional knowledge, skills, mental/behavioral health, substance use, academic outcome) after the implementation of the intervention.
4. The study must report quantitative data that allow for the extraction of effect size information.
5. The group that received a culturally adapted SEL program must be compared to a group that did not receive any treatment (e.g., no treatment, business-as-usual, waitlist control) or active control that did not receive any type of culturally adapted program. Single-group pre- and post-test comparison studies are also included.

6. The study examined SEL program effectiveness through a group-design study (i.e., randomized control design, clustered randomized design, randomized block design, and single-group pre-posttest design).

Records were excluded as irrelevant if they met any of the following exclusion criteria:

1. The target population was out of scope (e.g., PreK, indirect service delivery without youth's participation in direct service).
2. The study design was out of scope (e.g., examined correlational relationships without implementation of an SEL program; summarized existing research findings through a meta-analysis, systematic review, or qualitative synthesis; single-case experimental designs; case study).
3. The intervention was out of scope. The intervention was not considered SEL, or SEL was not a standalone curriculum but rather delivered as a sub-component that was integrated into a core curriculum (e.g., practicing perspective taking during a literature lesson, practicing mindfulness during a gym class).
4. The report was published before the year 2000.
5. The study was completed outside of the US.
6. The SEL program was not culturally adapted.
7. Participants were not deemed as racially/ethnically minoritized youth.
8. Effect size is not calculable (e.g., does not report standard deviation or other relevant information that allows for computation of variance).

While completing the screening, it was important to operationally define some of the key terms in the screening criteria. For this study, a SEL program was defined as a preventive or intervention program (at any tiered level of support) that focuses on improving students' social,

emotional, and/or behavioral outcome by teaching and knowledge and skills in at least one of the following areas: (a) developing healthy identities, (b) identifying and managing emotions, (c) setting and achieving goals, (d) practicing empathy for oneself and others, (e) understanding and appreciating others' perspectives, (f) building and maintaining supportive relationships, (g) handling personal and interpersonal problems, or (h) making responsible decisions (CASEL, 2020; Elias et al., 1997; Osher et al., 2016; Weissberg et al., 2015). Cultural adaptation was defined as any changes that were intentionally or unintentionally made to change the context, content, procedures, or delivery of the intervention to tailor the program to the worldviews and values shared in a specific cultural group or amongst racially or ethnically minoritized groups (Brown et al., 2018; Kumpfer et al., 2002; Smith et al., 2014). Cultural adaptation could include developing an intervention for the specific cultural group or adapting the existing intervention. Records were included even if the authors did not use or provide reference to the specific cultural adaptation framework. Additionally, REM youth were defined as youth who identify as a non-white, BIPOC (Black, Indigenous, people of color).

International studies were removed due to significant variability in how racially and ethnically minoritized groups could be defined in various contexts (e.g., Black youth living in the US, White expatriates living in Hong Kong, Chinese youth living in the US versus mainland China) as well as the difficulty determining the extent to which cultural adaptation was made in the international studies (i.e., less likely to report intervention elements that are considered to be normative in their countries or cultures). For example, several international studies did not directly mention cultural adaptation, but it was very likely that some efforts were made by the researchers to fit the program to the population they served (e.g., translation of materials, culturally relevant case examples and scenarios).

After the full-text screening of 889 records, 856 records were excluded and 33 records remained eligible for inclusion in the meta-analysis. The PRISMA flowchart further details the number of studies that were excluded as well as their reasons for exclusion (see Appendix A).

Reliability on Screening

Three doctoral students in a combined PhD/EdS school psychology program served as secondary screeners to assess the reliability of the screening procedure. Prior to the screening, the first author scheduled individual meetings with each reliability screener to review the overview of the project and orient them to the screener procedure. Each coder received feedback from the first 20 records they screened before proceeding to screen more records. Combined, the secondary screeners screened 31.4% of records eligible for screening (n = 2,955) at the initial screening of title and abstract, and they together screened 15.3% of records eligible for full-text screening (n = 136) to determine inclusion for the meta-analysis. The percentage agreement on screening decisions between the author and a second screener was 93.91% for the title and abstract screening and 78.68% for the full-text screening. All disagreements were resolved through discussion during weekly meetings. The reliability at the full-text screening was lower than anticipated primarily due to the difficulty defining cultural adaptation in international studies. As a result, only the studies implemented in the US were determined eligible for inclusion which was an update made to the inclusion criteria during the screening process.

Data Extraction

All 33 reports that met the screening criteria were included for coding. Using a coding manual developed by the author (see Appendix B), the following information was extracted from each study report: (a) report characteristics, (b) culturally adapted SEL program characteristics, (c) cultural adaptation characteristics, (d) setting characteristics, (e) participant and sample

characteristics, (f) outcome characteristics, (g) study design characteristics, (h) effect size information, and (i) coder and coding process characteristics (Cooper, 2017). The extracted information was recorded by each coder in a Microsoft Excel file.

Training of Secondary Coders

Secondary coders for data extraction included six doctoral students enrolled in a combined PhD/EdS school psychology program whose research and professional interests were in culturally responsive practices and school-based mental health supports. Similar to the training procedures outlined in the Long et al.'s (2019) meta-analysis, the author provided the coders with an overview of the project, a review of the coding manual, and assigned two articles prior to the coding to orient them to the topic. The two articles included a conceptual article (i.e., Castro et al., 2010) that discussed cultural adaptation frameworks and a best practice reading on providing culturally responsive interventions in schools (i.e., Jones, 2014). After the secondary coders reviewed the two articles, the author and a secondary coder met to jointly code an article as part of the training. After the initial coding, the secondary coders were assigned articles to code independently.

Reliability on Coding

Nineteen records (57%) included in the present meta-analysis were double coded by secondary coders. The author coded 100% of the records included in the analysis. The percentage of agreement between the author and secondary coders was 84.7%. The author and secondary coder met to compare the coding decisions and resolved all discrepancies to reach 100% agreement on coding.

Meta-Analysis Procedures

The summary statistics (e.g., sample sizes for each treatment and comparison group at the pretest and posttest, mean and standard deviation at the pretest and posttest, standard errors, *t* statistics, *F* statistics, *p* values) were extracted from each study to obtain standardized mean differences (SMD). Using SMD allows for the comparison of effect sizes across different studies by converting effect sizes into a common measurement (Borenstein et al., 2009). Hedges' *g* (Hedges, 1981) was used as a measure of SMD to account for studies that have small sample sizes. To account for nesting effects in cluster randomized designs, corrected sampling variance was used to estimate effect sizes (Hedges, 2007; Taylor et al., 2021). Specifically, the outcomes from the studies that used clustered randomized design (e.g., Domitrovich et al., 2022; Gonzalez-Blanks et al., 2012; Warren et al., 2006) were adjusted based on the school-level intraclass correlation coefficient (ICC) reference values on social and behavioral outcomes examined by Dong et al. (2016).

To avoid the actual effectiveness from being obscured by heterogeneity of target outcomes, effect size estimates were presented in different categories of outcomes (i.e., racial/ethnic identity, social and emotional skills, attitudes toward self, school, and others, positive social behavior, conduct problems, emotional distress, and substance use). To account for various types of dependency in effect sizes (e.g., multiple outcomes measured within the same study or research groups), this meta-analysis used a correlated and hierarchical effects (CHE) model that uses the following formula (Pustejovsky & Tipton, 2022):

$$T_{ij} = \mathbf{x}_{ij}\,\boldsymbol{\beta} + u_j + v_{ij} + e_{ij}$$

Moderator analyses were performed with different predictor variables to answer Research Question #2 (i.e., the degree to which effect sizes vary based on student demographic

characteristics, type of cultural adaptation, interventionist, SAFE criteria, and partnership with family or community members). The predictor that had continuous variables was centered (i.e., data was adjusted so that each predictor has a mean of zero) to facilitate the interpretation of regression results. Listwise deletion was used to handle missing data (e.g., authors did not report the type of interventionist or percentage of participant gender) and the missing data were omitted from model fitting.

Regression Model #1. student demographic characteristics (i.e., race/ethnicity, age, gender, SES, level of acculturation, ELL, and clinical risk):

$$\text{Effect size} = \beta + \%\text{ of Black youth} + \%\text{ of Latinx youth} + \%\text{ of White youth} + \%\text{ of Asian American Pacific Islander youth} + \%\text{ of Native youth} + \%\text{ of multiracial youth} + \text{age} + \text{gender} + \text{SES} + \text{acculturation level} + \text{clinical status} + e$$

Regression Model #2. cultural adaptations (i.e., language, persons, metaphors/content/concepts, goals/contexts, and methods):

$$\text{Effect size} = \beta + \text{adaptation on language} + \text{persons} + \text{metaphors/content/concepts} + \text{goals/context} + \text{methods} + e$$

Regression Model #3. type of interventionist (e.g., researcher, teacher/school staff, school-based mental health provider, community mental health, other):

$$\text{Effect size} = \text{type of interventionist} + e$$

Regression Model #4. SAFE criteria:

$$\text{Effect size} = \text{SAFE criteria} + e$$

Regression Model #5. Partnership with family or community:

$$\text{Effect size} = \beta + \text{partnership with family} + \text{partnership with community} + e$$

Assessment for Publication Bias

To assess for potential effect of publication bias on the results, a combination of several different approaches was used, including standard contour-enhanced funnel plot analysis to assess for symmetry in effect sizes distribution (i.e., asymmetric distribution of effect size point estimates with a greater representation of affirmative studies indicates potential publication bias), Egger's regression tests to assess for a statistically significant relationship between standard error and effect size (Egger et al., 1997), and sensitivity analysis to assess the possible effect of publication bias on the average effect size (Mathur & VanderWeele, 2020).

Chapter Three: Results

This chapter first describes the descriptive characteristics of 33 reports (35 samples) that were identified through various search strategies (i.e., database search, ancestral search, grey literature search, and contact of authors). All 33 reports were included in the meta-analysis; the results of the meta-analysis of the effect sizes are summarized in this chapter as well.

Descriptive Characteristics of Culturally Adapted SEL Programs

Table 4 below summarizes the study characteristics across several domains (i.e., report characteristics, SEL program characteristics, cultural adaptation, setting, participant/sample, and study design). The specific codes for each study's characteristics can be found in Appendix C.

Table 2

Descriptive Characteristics of 33 School-Based Culturally Adapted SEL Programs with Outcomes at Posttest

General Publication Characteristics	*N*	*%*
Report Characteristics	(*n* = 33)	
Type of Report		
Journal article	28	84.85
Doctoral dissertation	5	15.15
Year of Publication		
2000–2005	7	21.21
2006–2010	6	18.18
2011–2015	9	27.27
2016–2020	9	27.27
2021-2022	2	6.06
SEL Program Characteristics	(*n* = 34)	
Type of Interventionist		
Researcher/university personnel	8	23.53
Classroom teacher/school staff	8	23.53
School-based mental health practitioner	2	5.88
Other (e.g., community volunteer/staff, peer-led)	4	11.76
Multiple/multicomponent	3	8.82
Not reported	9	26.47

Dosage		
< 400 min	1	2.94
400–800 min	13	38.24
> 800 min	8	23.53
Not reported	12	35.29
SAFE Elements		
Intervention rated as SAFE	29	85.29
Intervention not rated as SAFE	5	14.71
Cultural Adaptation	(*n* = 34)	
Specificity of Cultural Adaptation		
Race/Ethnicity	28	82.35
Sex/Gender	7	20.59
SES	6	17.65
Locale	9	26.47
Other (clinically at high risk, alternative schools, recent immigrants, ELL, older sibling in the family, single-parent household)	11	32.35
Dimensions of Cultural Adaptation		
Language	17	50.00
Persons	13	38.24
Metaphors/Content/Concepts	31	91.18
Goals/Context	23	67.65
Methods	17	50.00
Staff Training		
Included	12	35.29
Not included	22	64.71
Partnership with Families		
Yes	8	23.53
No	26	76.47
Partnership with Communities		
Yes	16	47.06
No	18	52.94
Setting Characteristics	(*n* = 33)	
Community Locale		
Urban	25	75.76
Suburban	1	3.03
Rural	1	3.03
Tribal community/Indian reservation	1	3.03
Not reported	5	15.15
Setting Type		

School	30	90.91
School & Community	2	6.06
Not reported	1	3.03
School Hours		
During school hours	19	57.58
After school hours	4	12.12
During & after school hours	8	24.24
Summer program	2	6.06
Participant and Sample Characteristics	(*n* = 35 with 12,239 participants)	
Race Ethnicity		
Black/African American	2,594	21.19
Latinx	7,122	58.19
White/Caucasian	1,511	12.35
Asian American Pacific Islander/Desi-American	76	0.62
Native American/First Nations	508	4.15
Multiracial	52	0.42
Race/ethnicity not reported	376	3.07
Grade		
Early Elementary	1	2.86
Early Elementary & Late Elementary	1	2.86
Late Elementary	1	2.86
Late Elementary & Middle School	6	17.14
Middle School	12	34.29
Middle & High School	3	8.57
High School	11	31.43
Gender		
Female	5,833	47.66
Male	6,158	50.31
Gender not reported	248	2.03
SES		
Predominantly low-income	20	57.14
Predominantly upper/middle class	0	0
No predominant SES (socioeconomically diverse)	4	11.43
SES not reported	11	31.43
Clinical		
Not presenting any mental, behavioral health problems	19	54.29
Clinically at risk	13	37.14
Mixed	3	8.57
Acculturation Status		

Predominantly high level of acculturation	0	0
Predominantly low level of acculturation	7	20.00
No predominant acculturation level	1	2.86
Acculturation status not reported	27	77.14
ELL Status		
Predominantly ELL	7	20.00
Predominantly non-ELLs	10	28.57
No predominant ELL status	2	5.71
ELL status not reported	16	45.71
Study Design Characteristics	*n* = 34	
Design Type		
Randomized controlled trial	4	11.76
Cluster randomized trial	4	11.76
Block randomized trial	2	5.88
Quasi-experimental design	14	41.18
Single group pre-posttest design	10	29.41
Randomization		
Yes	13	38.24
No	21	61.76
Attrition		
Low level of bias under cautious and optimistic assumption	18	52.94
Tolerable level of bias under optimistic assumption	3	8.82
Attrition not reported	13	38.24
Presence of Comparison Group/Type of Comparison Group		
Yes	24	70.59
No intervention/waitlist control/Business-as-usual	19	55.88
Alternative intervention/active control	4	11.76
Description not provided	1	2.94
No (single-group pre-posttest)	10	29.41
Level of Assignment		
Student	8	23.53
Classroom	3	8.82
Grade	1	2.94
School	7	20.59
Combination (e.g., existing groups, classroom)	2	5.88
Not reported	3	8.82
Not applicable (single-group pre-posttest design)	10	29.41

Treatment Fidelity		
Measured	5	14.71
> 80%	5	14.71
Not measured	29	85.29

Report Characteristics

The 33 reports represented in the samples were predominantly journal articles (*n* = 28; 84.85%) and a few doctoral dissertation studies (*n* = 5; 15.15%). There seemed to be a growing number of publications that focused on examining the effectiveness of culturally adapted SEL programs. Slightly more studies were published in the last decade (18 reports published between 2011 and 2020 as well as two reports between 2011 and 2022) compared to the previous years (13 reports between 2000 and 2010).

SEL Program Characteristics and Outcomes

Thirty-four culturally adapted programs were examined across the 33 reports included in the meta-analysis. Most programs were delivered by researcher/university personnel (*n* = 8; 23.53%) and classroom teachers/school staff (*n* = 8; 23.53%). Some programs were delivered by volunteers in community organizations, and some were peer-led interventions where a group of high school students delivered the intervention to a group of middle school students (*n* = 4; 11.76%). Additionally, three programs (8.82%) had multiple interventionists involved in the delivery of intervention (e.g., therapists, teachers). Only two programs (5.88%) were delivered by school-based mental health professionals.

Programs varied significantly on dosage as measured by the program's length (range = 4.5–34 hr). Of 22 programs that reported intervention dosage (64.71%), 13 programs (38.24%) had a dosage between 400 and 800 min, and eight programs (23.53%) had a dosage > 800 min.

The assessment of programs' alignment with SAFE criteria indicated that most programs (*n* = 29; 85.29%) met the SAFE criteria, suggesting that programs were sequenced where each

skill built on one another, actively engaged students through role-plays and other rehearsal strategies, focused sufficient time on skill development, and explicitly targeted specific SEL skills (e.g., self-regulation, perspective taking, positive decision making). Five out of 34 programs (14.71%) did not meet at least one element of SAFE criteria.

Across the programs, the most examined outcomes were youth's attitudes toward self, school, and others (k = 81), followed by social and emotional skills (k = 34), substance use (k = 33), emotional distress (k = 31), racial/ethnic identity (k = 18), conduct problems (k = 15), and positive social behavior (k = 13). The descriptions of each outcome category are summarized in Appendix E.

Cultural Adaptation Characteristics

Across the 34 culturally adapted programs included in the meta-analysis, 82.35% of the programs (n = 28) were specifically designed or adapted to meet the cultural needs of a racial/ethnic group. Slightly less than half (n = 15; 44.12%) of the programs were specifically designed in consideration of other identity characteristics (e.g., gender, SES, locale) in addition to the youth's race/ethnicity. Nine programs (26.47%) were designed for youth living in a certain geographic locale (mostly urban areas), for either girls or boys (n = 7; 20.59%), and for youth from low-income families (n = 6; 17.65%). About 32.35% (n = 11) of programs were specifically designed in consideration of other salient identities or cultural characteristics (e.g., clinically at high risk, youth attending alternative schools, recently immigrated youth, ELL, single-parent households, an older sibling in the family).

The present meta-analysis examined the cultural adaptations of the programs using Bernal et al.'s (1995) ecological validity model. Some of the dimensions were merged (e.g., metaphors, content, concepts; goals and context) due to their similarities; therefore, the cultural

adaptations were organized into five dimensions, including (a) language, (b) persons, (c) metaphors/content/concepts, (d) goals/context, and (e) methods. The operational definitions and examples/non-examples of each dimension are summarized in Appendix F. Most common adaptations involved incorporating culturally salient metaphors, content, and concepts (n = 31; 91.18%), including idioms, symbols, and case examples that are commonly used in REM youth's cultural settings. Additionally, 23 programs (67.65%) aligned their goals with the social, economic, political, and historical experiences of REM youth. Seventeen programs (50%) made adaptations to language and 17 programs (50%) made adaptations to their methods. These adaptations involved translations of program materials or delivering the SEL program in participants' dominant language (i.e., an adaptation of language) and consultations with community members or focus groups with key stakeholders to ensure that the curriculum aligns with the cultural values of the target population (i.e., an adaptation of methods). Thirteen (38.24%) programs were implemented by bilingual or bicultural interventionists whose identities matched with the target audience (i.e., an adaptation of persons).

Training of school staff was coded to examine the proportion of programs that include efforts to build educator capacity in understanding and delivering culturally adapted SEL programs. Less than half of the programs included in the meta-analysis (n = 16; 47.06%) incorporated school staff training. These trainings appeared to often focus on helping teachers understand the program materials and build infrastructure within the school so that the programs can continue to be delivered by the teachers after the conclusion of the research study. Conversely, the reports rarely made explicit reference to reducing teacher bias, using culturally responsive instructional practices, or enhancing their own social-emotional competencies to promote positive relationships with REM youth.

For programs' partnership with families and communities, most programs did not involve partnership with families for designing or delivering culturally adapted SEL programs to REM youth (n = 26; 76.47%). Instead, programs were more likely to partner with community members (n = 16; 47.06%) than with families in designing and delivering the intervention (e.g., incorporate feedback from community members who are knowledgeable in cultural practices, local school youth share culturally relevant case examples/vignettes, partner with tutors from a local university to deliver intervention).

Setting Characteristics

Most of the included studies took place in urban/metropolitan settings (n = 25; 75.76%). Only a small number of studies took place in suburban (n = 1; 3.03%), rural (n = 1; 3.03%), or tribal community settings (n = 1; 3.03%). Five studies (15.15%) did not report geographic locale. Thirty (90.91%) of the culturally adapted SEL programs were implemented in the school setting. Two studies (6.06%) delivered the programs in school and community settings, whereas one study (3.03%) did not report the intervention setting.

Regarding the time of delivery (i.e., during school hours, after school, or summer program), 57.58% (n = 19) of programs were delivered during regular school hours. Four programs (12.12%) were delivered during after-school hours and eight programs (24.24%) were delivered in a combination in which some portion was delivered during school hours and some portion was delivered after school (e.g., parent workshops). Two programs (6.06%) were identified as summer programs.

Participant and Sample Characteristics

Across the 33 reports included in the meta-analysis, 35 samples (n = 12,239 participants) were identified and reviewed for their participant and sample characteristics. The largest

racial/ethnic group represented across the culturally adapted SEL studies was Latinx who made up 58.19% of the total participants (*n* = 7,122). They were followed by Black/African American (*n* = 2,594; 21.19%), White/Caucasian (*n* = 1,511; 12.35%), Indigenous/Native American (*n* = 508; 4.15%), and multiracial (*n* = 52; 0.42%). Race/ethnicity was not reported for 376 participants (3.07%). Of the total participants, 5,833 participants (47.66%) were reported to be female, and 6,158 participants (50.31%) were reported to be male. Gender was not reported for 248 participants either because the authors did not report any gender information or because some participants did not indicate the gender information on the demographic questionnaire.

More than 75% of the reviewed reports (at least 26 reports) studied the effectiveness of culturally adapted SEL programs among middle and high school students. Less than 25% of the reviewed reports (less than nine reports) focused on the elementary school-age population.

Regarding students' SES, 57.14% of the reports examined program effectiveness with predominantly (> 60% of the sample) low-income populations. Additionally, 11.43% of the reports (*n* = 4) had a mix of youth with diverse SES; SES was not reported for 31.43% of the studies (*n* = 11).

REM youth participants were considered clinically at risk if they were selected based on their score on a mental health screener used by the researchers or if the researchers provided an extensive description of several risk factors that the group presented with (e.g., high mobility, low income, immigration-related trauma). Thirteen (37.14%) reports indicated that a predominant number of participants were at risk. Nineteen (54.29%) of the included reports did not explicitly indicate that youth presented with any mental or behavioral health problems. Three (8.57%) reports indicated that there was a mix of youth participants who were considered at risk.

Like risk level, youth participants' acculturation level was captured for each report based on whether a predominant number of youth participants had a low level of acculturation to the mainstream culture (e.g., recently immigrated) or had a high level of acculturation (e.g., second or third generation), or a mix of different acculturation levels. The results indicated that most reports (77.14%; *n* = 27) did not report on REM youth's acculturation level. Seven (20%) of reports had a sample of youth who predominantly had low levels of acculturation and one study (2.86%) reported a mix of different acculturation levels. None of the studies were conducted with a REM youth sample who predominantly had high acculturation levels.

Lastly, REM youth's ELL status was captured for each report based on whether a predominant number of youth participants were identified as ELLs, non-ELLs, or a mix of youth who were ELLs and those who were non-ELLs. ELL status was not reported for 16 reports (45.71%). Ten studies (28.57%) were conducted with a youth sample who were predominantly non-ELLs, 20% of studies (*n* = 7) were conducted with a youth sample who were predominantly ELLs, and 5.71% of studies (*n* = 2) did not have a predominant group in regard to the youth's ELL status.

Research Design Characteristics

Across the 34 studies included in the meta-analysis, the most used research method was a quasi-experimental design (*n* = 14; 41.18%), followed by a single group pre-posttest design (*n* = 10; 29.41%), cluster randomized trial (*n* = 4; 11.76%), randomized controlled trial (*n* = 4; 11.76%), and block randomized trial (*n* = 2; 5.88%). Most studies did not use randomization to assign participants to experimental groups (*n* = 21; 61.76%). Only 13 studies (38.24%) randomly assigned participants to the experimental conditions. Twenty-four (70.59%) studies included two or more experimental conditions (*n* = 24) and therefore assigned participants at different levels of

unit (e.g., student, classroom, grade, school). Eight (23.53%) studies assigned participants at a student level, seven (20.59%) assigned them at a school level, three (8.82%) assigned them at a classroom level, and one (2.94%) assigned them at a grade level. Two (5.88%) studies assigned some participants at an existing group level (e.g., participants who participated in a school program before) and some participants at a classroom level. Three (8.82%) studies did not report the assignment level of participants.

All studies, except for the studies that used a single group pre-posttest design, had at least one comparison group (n = 24; 70.59%). Of the 24 studies that had a comparison group, 19 studies (55.88%) used a no treatment or waitlist control as their comparison group. Four studies (11.76%) used alternative intervention or an active control group that received the intervention which involved some workshops or peer groups that were not culturally adapted. One study (2.94%) did not report the nature of the comparison group.

Treatment fidelity, which also is known as intervention adherence or integrity, refers to the percentage of sessions or tasks that the interventionists adhered to from the intervention protocol. Treatment fidelity was measured and reported in only five out of 34 studies (14.71%) that were included in the analysis. Across the five studies that reported treatment fidelity, all five had an average treatment fidelity that exceeded 80%. Most the studies (n = 29; 85.29%) did not measure or report the treatment fidelity.

Attrition, which is the loss of participants from the initial assignment to conditions to post-test measure, was coded based on the differential and overall attrition and whether the loss of participants was related to the intervention (cautious assumption applied to assess the potential bias of attrition on the outcome) or was unrelated to the intervention (optimistic assumption applied) as recommended by the What Works Clearinghouse (2022) guidelines. Attrition was

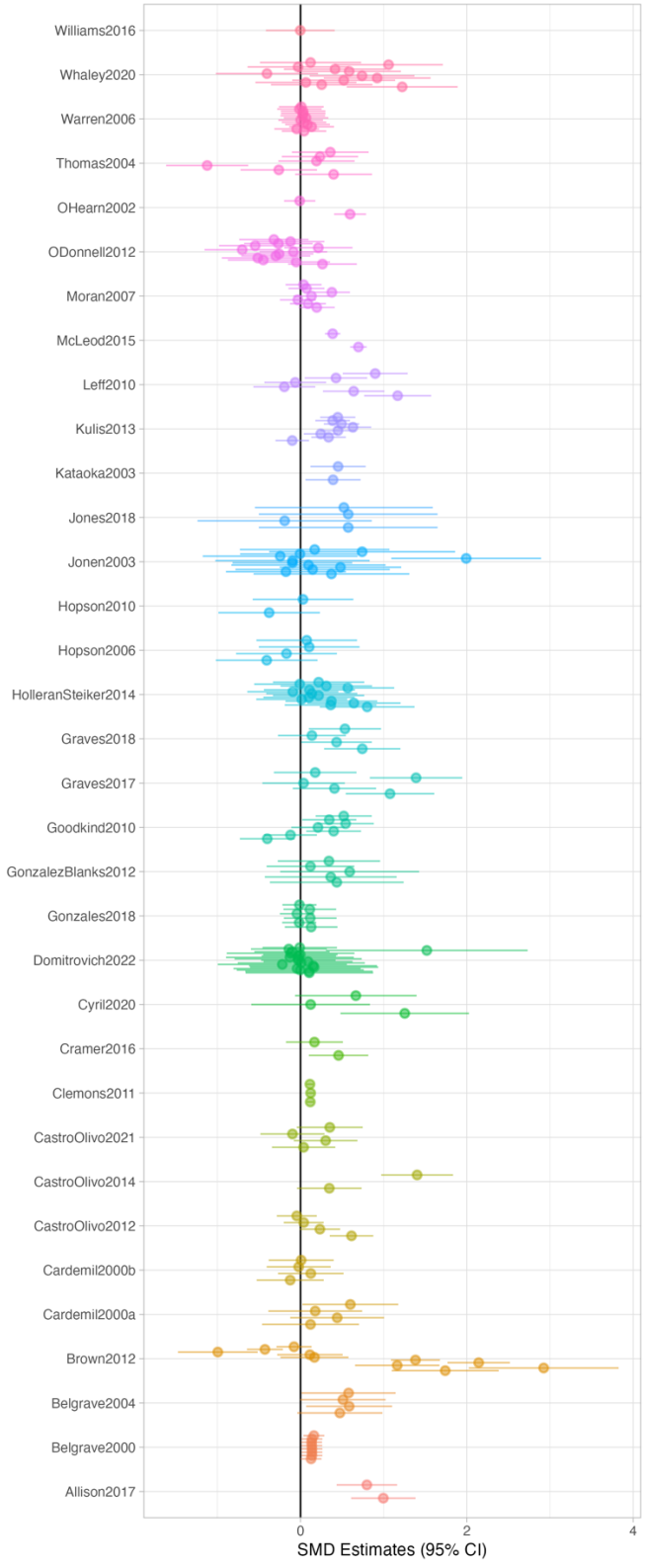
reported in 21 studies (61.76%) and was not reported in 13 studies (38.24%). Most studies (n = 18; 52.94%) had a low expected bias under both optimistic and cautious attrition boundaries. Three (8.82%) studies had a tolerable level of expected bias under optimistic attrition boundaries but high expected bias under cautious attrition boundaries. Studies or outcomes with high levels of attrition and high expected bias were removed from the meta-analysis.

Meta-Analysis Results

The final sample included in the meta-analysis consisted of 33 studies with 35 samples. After excluding one effect size estimate that appeared to be a potential outlier (i.e., one effect from O'Donnell, 2013), there were 203 effect sizes drawn from the 33 studies that were included in the analysis. Figure 2 below illustrates a forest plot of standardized mean difference (SMD) effect size estimates by study. The number of effect size estimates drawn from each study ranged from 1 to 19 (median of k = 6).

Figure 2

Forest Plot of Standardized Mean Difference (SMD) Effect Size Estimates by Study


Williams2016
Whaley2020
Warren2006
Thomas2004
OHearn2002
ODonnell2012
Moran2007
McLeod2015
Leff2010
Kulis2013
Kataoka2003
Jones2018
Jonen2003
Hopson2010
Hopson2006
HolleranSteiker2014
Graves2018
Graves2017
Goodkind2010
GonzalezBlanks2012
Gonzales2018
Domitrovich2022
Cyril2020
Cramer2016
Clemons2011
CastroOlivo2021
CastroOlivo2014
CastroOlivo2012
Cardemil2000b
Cardemil2000a
Brown2012
Belgrave2004
Belgrave2000
Allison2017
0
2
4
SMD Estimates (95% CI)

Research Question #1

The first research question sought to assess the overall effectiveness of culturally adapted SEL programs for racially/ethnically minoritized youth on various youth outcomes at posttest (i.e., racial/ethnic identity; social and emotional skills; attitudes toward self, school, and others; positive social behavior; conduct problems; emotional distress; and substance use). The effect size estimates of culturally adapted SEL programs varied across different outcomes, with effect sizes ranging from small to medium. There were significant posttest program effects that favored culturally adapted SEL programs on several student outcomes, including SEL skills (ES = 0.66, 95% CI = [0.10, 1.21], $p < 0.0001$), attitudes (ES = 0.16, 95% CI = [0.05, 0.26], $p = 0.0087$), prosocial behavior (ES = 0.41, 95% CI = [-0.01, 0.83], $p = 0.0007$), and conduct problems (ES = 0.44, 95% CI = [0.17, 0.71], $p = 0.0017$). The program effects on racial/ethnic identity (ES = 0.22, 95% CI = [-0.10, 0.53], $p = 0.0568$), emotional distress (ES = 0.09, 95% CI = [-0.29, 0.48], $p = 0.2820$), and substance use (ES = 0.05, 95% CI = [0.01, 0.10], $p = 0.5412$) were not statistically significant. The results indicated that there was significant variability between the average effects of various culturally adapted SEL programs on different outcomes ($F(6, 8.94) = 6.22$, $p = 0.008$), with effect size estimates ranging between 0.05 and 0.66. The estimates of between-study heterogeneity ($\tau^2 = 0.00$) and within-study heterogeneity ($\omega^2 = 0.13$) indicated that most variance in the effect sizes estimates came from within the study. Table 5 below summarizes the estimates of mean effects, standard error, 95% CIs, and *p*-value for each outcome category.

Table 5

Effect Size Estimates and 95% Confidence Intervals at Posttest for Each Outcome (k = 203)

Outcome	# of Effect Sizes	# of Studies	ES (SE)	95% CI	*p*-value

Racial/ethnic identity	18	7	0.22 (0.13)	[-0.10, 0.53]	0.0568
SEL skills	26	15	0.66 (0.25)	[0.10, 1.21]	< 0.0001***
Attitudes	72	21	0.16 (0.05)	[0.05, 0.26]	0.0087**
Positive social behavior	13	5	0.41 (0.10)	[-0.01, 0.83]	0.0007***
Conduct problems	13	7	0.44 (0.10)	[0.17, 0.71]	0.0017**
Emotional distress	28	11	0.09 (0.17)	[-0.29, 0.48]	0.2820
Substance use	33	8	0.05 (0.02)	[0.01, 0.10]	0.5412

Note. Outcome on academic performance was removed from the analysis due to fewer than two studies being eligible for the analysis. ES = effect size estimates; SE = standard error; CI = confidence interval.
* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$.

Research Question #2

The second research question sought to assess the extent to which the obtained effects on overall youth outcome vary based on the following predictor variables:

(a) student demographic characteristics (i.e., race/ethnicity, age, gender, level of acculturation, ELL status, and clinical risk)

(b) different components of cultural adaptation (i.e., language, persons, metaphors/content/concepts, goals/contexts, and methods)

(c) type of interventionist (i.e., researcher, teacher/school staff, school-based mental health provider, multiple, and other)

(d) SAFE criteria (i.e., meeting all SAFE criteria vs. not meeting at least one criterion)

(e) partnership with families or community members

The first part of the second research question assessed whether there was a difference in the effect size estimates across different demographic groups (i.e., race/ethnicity, age, gender,

SES, acculturation, and clinical risk level). Due to a high degree of missing data and potential multicollinearity issues, the following variables were dropped from the model: Race/ethnicity: Latinx, White/Caucasian, Asian American Pacific Islander, Native American, Multiracial, not reported; level of acculturation; and socio-economic status. Therefore, the model was left with race/ethnicity: Black/African American (% of Black/African American), age (mean age), gender (% of female), and clinical risk level (no risk vs. at risk; no risk vs. mixed), with a total of 187 effect sizes included in the model. The statistical test indicated that there were no significant differences in the effect sizes moderated by various student demographic variables. Only the intercept had a significant effect on the overall student outcome, which suggested that there was a significant difference in the student outcome when all the predictors were at average (i.e., average percentage of Black/African American, age, percentage of female, and clinical risk). Within-study heterogeneity ($\omega^2 = 0.0788$) was larger than between-study heterogeneity ($\tau^2 = 0.0235$).

Table 6

Effect Size Estimates and 95% Confidence Intervals by Student Demographic Info (k = 187)

Demographic variable[a]	ES (SE)	95% CI	*p*-value
Intercept	0.26 (0.04)	[0.17, 0.35]	< .0001***
Race/ethnicity: Black/African American	< 0.01 (< 0.01)	[< -0.01, < 0.01]	0.6643
Age	-0.01 (0.02)	[-0.06, 0.03]	0.5936
Gender (female)	< -0.01 (< 0.01)	[< -0.01, < -0.001]	0.0783
Clinical (at risk)	< 0.01 (0.21)	[-0.61, 0.61]	0.9923
Clinical (risk not specified)	-0.02 (0.20)	[-0.58, 0.55]	0.9340

Note. [a] Demographic variables with significant number of missing values and multicollinearity issues (i.e., highly similar values that are intercorrelated and perceived as redundant) were dropped from the model (i.e., Race/ethnicity: Latinx, White/Caucasian, Asian American Pacific Islander, Native American, Multiracial, not

reported; level of acculturation; socio-economic status). ES = effect size estimates; SE = standard error; CI = confidence interval.
* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 7 summarizes the differences in average effects for studies that make the cultural adaptation (i.e., on language, persons, metaphor/content/concept, goals/context, and methods) compared to those that do not make the adaptation while holding all the other adaptations constant. The results indicated that the cultural adaptation of SEL programs shows statistically significant positive results on the overall student outcome (ES = 0.27, 95% CI [0.13, 0.41], $p <$ 0.0001). However, each individual type of adaptations did not have a significant effect on predicting variations in the overall student outcome with the *p*-values greater than 0.05. Therefore, any precise conclusion about the effectiveness of specific forms of adaptation could not be drawn based on the data available. Additionally, the differences between the effect size estimates across the various types of cultural adaptation were not statistically significant, suggesting that the different types of cultural adaptation do not appear to have a significant impact on predicting variations in the overall student outcome, F (6, 5.84) = 2.92, p = 0.112. Most variance in the effect sizes estimates came from within the study as evidenced by the large within-study heterogeneity (ω^2 = 0.1592) compared to between-study heterogeneity (τ^2 = 0.0172).

Table 7

Effect Size Estimates and 95% Confidence Intervals by Type of Cultural Adaptation (k = 203)

Cultural adaptation	ES (SE)	95% CI	*p*-value
Intercept	0.27 (0.07)	[0.13, 0.41]	< 0.0001***
Language	-0.12 (0.10)	[-0.36, 0.12]	0.3294
Persons	0.10 (0.14)	[-0.20, 0.40]	0.4067

Persons (unclear)[a]	-0.09 (0.11)	[-0.34, 0.16]	0.4945
Metaphor/Content/Concept	-0.09 (0.29)	[-0.94, 0.76]	0.6749
Goals/Context	-0.19 (0.19)	[-0.62, 0.25]	0.1406
Methods	0.05 (0.16)	[-0.29, 0.39]	0.6847

Note. [a] Unlike other types of adaptations that were coded as a binary variable (0 = no, 1 = yes), the adaptation of *Persons* (i.e., interventionist(s) share the same racial/ethnic/cultural identity of target population) was captured as one of the following options: no, yes, unclear (i.e., interventionist's race/ethnicity was not described). ES = effect size estimates; SE = standard error; CI = confidence interval.
* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 8 summarizes the effect size estimates by different types of interventionists. Across the different types of interventionists, the effect sizes ranged between small to moderately positive. The moderate effect size was found for studies that involved school-based mental health providers as the interventionists (ES = 0.65, 95% CI [-2.36, 3.67], $p = 0.0166$). Additionally, small positive effect size was found across the studies that involved multiple types of interventionists (e.g., school-based clinician and community partner, community-based clinician and teacher, peer interventionists and teachers; ES = 0.38, 95% CI [-0.13, 0.89], $p = 0.0222$), other interventionists (e.g., peer-led or staff from community organization; ES = 0.37, 95% CI [0.21, 0.54], $p = 0.0229$), and researcher/university personnel (ES = 0.25, 95% CI [-0.09, 0.59], $p = 0.0187$). The effect size estimate drawn from studies that involved classroom teacher/school staff was not statistically distinguishable from the null (ES = 0.14, 95% CI [-0.06, 0.34], $p = 0.2072$), suggesting that there is no clear indication of positive effects for various student outcomes when the intervention is delivered by classroom teachers or school staff. Nevertheless, based on the *F*-statistics test, the differences between the effect size estimates across the various types of interventionists were not found to be statistically significant, $F(4, 2.37) = 1.03$, $p =$

0.531. Within-study heterogeneity ($\omega^2 = 0.2117$) was significantly larger than between-study heterogeneity ($\tau^2 = 0.0172$).

Table 8

Effect Size Estimates and 95% Confidence Intervals by Interventionist Type (k = 153)

Interventionist	ES (SE)	95% CI	*p*-value
Researcher/university personnel	0.25 (0.15)	[-0.09, 0.59]	0.0187*
Classroom teacher/school staff	0.14 (0.08)	[-0.06, 0.34]	0.2072
School-based mental health provider	0.65 (0.24)	[-2.36, 3.67]	0.0166*
Multiple[a]	0.38 (0.11)	[-0.13, 0.89]	0.0222*
Other[b]	0.37 (0.03)	[0.21, 0.54]	0.0229*

Note. [a] Different combinations of interventionists (e.g., school-based mental health clinicians and community partners, community-based clinician and teacher, peer interventionists and teachers). [b] Peer interventionist. ES = effect size estimates; SE = standard error; CI = confidence interval.
* $p < 0.05$.

A moderator analysis was performed to assess the differences in the effect size estimates between the culturally adapted SEL programs that met SAFE criteria and those that did not meet SAFE criteria. As summarized in Table 9, a statistically significant small positive effect size was found across studies that met SAFE criteria (ES = 0.26, 95% CI [0.15, 0.37], $p < 0.0001$). Conversely, the effect size estimate of culturally adapted SEL programs that did not meet SAFE criteria was not statistically distinguishable from the null (ES = 0.21, 95% CI [-0.06, 0.47], $p < 0.1000$), indicating that there is not strong evidence of culturally adapted SEL programs on student outcomes that do not meet SAFE criteria. The *F*-statistics test indicated that the differences in effect size estimates between programs that met SAFE criteria and those that did not meet the criteria were not statistically significant, $F(1, 5.45) = 0.274$, $p = 0.621$. Within-study heterogeneity ($\omega^2 = 0.1598$) was significantly larger than between-study heterogeneity ($\tau^2 = 0.0117$).

Table 9

Effect Size Estimates and 95% Confidence Intervals based on SAFE criteria (k = 203)

SAFE criteria	ES (SE)	95% CI	*p*-value
SAFE criteria met	0.26 (0.05)	[0.15, 0.37]	< 0.0001***
SAFE criteria not met	0.21 (0.09)	[-0.06, 0.47]	0.1000

Note. ES = effect size estimates; SE = standard error; CI = confidence interval.
*** $p < 0.001$.

Lastly, a moderator analysis assessed the average effects for studies that involve partnership with families and/or communities compared to those that do not involve partnership while holding the other partnership (i.e., partnership with families or partnership with communities) constant. Based on the results, culturally adapted SEL program demonstrated a statistically significant overall effect on student outcome when partnerships were used as typically observed across the studies (ES = 0.26, 95% CI [0.15, 0.37], $p < 0.0001$), and the regression model showed a significant relationship with the overall student outcome (F (2, 14.5) = 3.85, $p = 0.0457$). However, neither partnership with family (ES = 0.02, 95% CI [-0.24, 0.28], $p = 0.8869$) nor the community (ES = -0.03, 95% CI [-0.27, 0.21], $p = 0.7727$) showed a statistically significant relationship with the overall student outcome. The tests of heterogeneity indicated that within-study heterogeneity ($\omega^2 = 0.1601$) was significantly larger than between-study heterogeneity ($\tau^2 = 0.0156$).

Table 10

Effect Size Estimates and 95% Confidence Intervals by Partnerships (k = 203)

Partnership	ES (SE)	95% CI	*p*-value
Intercept	0.26 (0.05)	[0.15, 0.37]	< 0.0001***
Partnership with family	0.02 (0.12)	[-0.24, 0.28]	0.8869
Partnership with community	-0.03 (0.11)	[-0.27, 0.21]	0.7727

Note. ES = effect size estimates; SE = standard error; CI = confidence interval.
* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Aside from the original research questions, additional analysis was completed to further assess the potential differences in the average effect size estimates based on the different types of research designs (i.e., randomized control trials, cluster randomized designs, quasi-experimental design, and single-group pre-post design). As seen from Table 11, the effect size estimates appeared to be larger and more statistically significant as the rigor of the study design decreased. The *F*-statistics test indicated that the differences in effect size estimates between the different study designs were not statistically significant, $F(3, 6.33) = 0.884$, $p = 0.499$.

Table 11

Effect Size Estimates and 95% Confidence Intervals by Design Types (k = 203)

Study Design	ES (SE)	95% CI	*p*-value
Single-group pre-post design	0.32 (0.10)	[0.08, 0.56]	0.0001***
Quasi-experimental design	0.25 (0.06)	[0.11, 0.39]	0.0027**
Cluster randomized design	0.98 (0.80)	[-0.35, 0.55]	0.5176
Randomized control trials	0.24 (0.10)	[-0.00, 0.49]	0.0192*

Note. ES = effect size estimates; SE = standard error; CI = confidence interval.
* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Assessment of Potential Publication Bias

Potential publication bias was assessed using a combination of three approaches. First, the visual inspection of effect size distribution was completed using a funnel plot. The distribution of effect size estimates on the funnel plot (see Figure 3 below) exhibited an asymmetric pattern with a disproportionately greater number of statistically significant studies in the affirmative direction. Additionally, there was a greater number of more robust effect size

estimates ($g > 1.5$) on the affirmative side compared to non-affirmative effect size estimates that aligned closer to 0. Such a pattern suggests that there may be a potential publication bias where non-affirmative results were less likely to be reported or published. Similarly, Egger's regression test was completed to formally assess for asymmetry found in the funnel plot; results indicated a statistically significant relationship between the standard error and the effect size ($\hat{\beta}_1 = 1.38$, $p = 0.0125$), further confirming the asymmetric effect size distribution. Finally, the sensitivity analysis was completed to assess the possible effects of publication bias on the average effect size. The graph in Figure 4 illustrates a steep decrease in the average effect size estimates in the presence of strong publication bias. Whereas the average effect size is anticipated to be 0.225 ($t(21.6) = 4.31$, $p = 0.00029$) under the assumption that there is no publication bias, the average effect size is expected to be much smaller and anticipated to be 0.078 ($t(15.9) = 2.09$, $p = 0.053$) under the assumption of strong publication bias.

Figure 3

Funnel Plot of SMD Effect Size Estimates

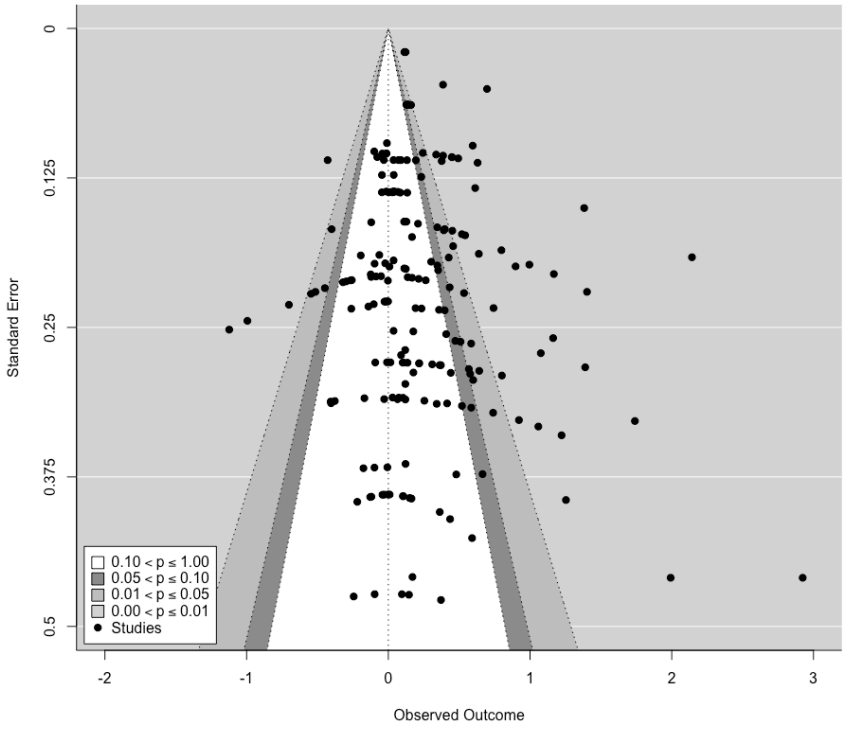
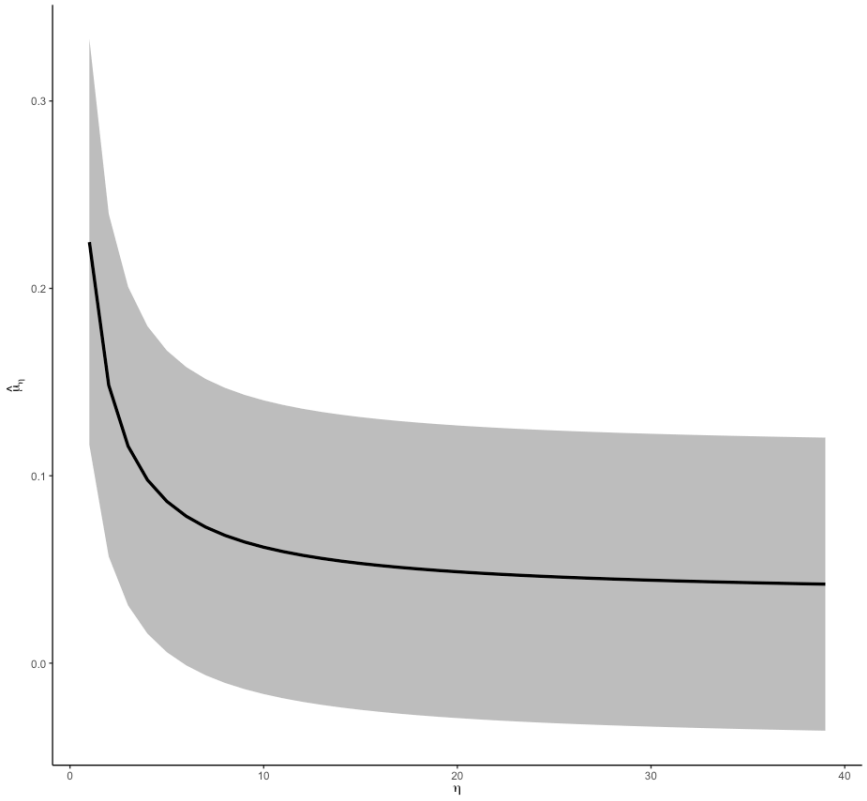


Figure 4

Sensitivity Analysis for Varying η



Note. Gray area indicates 95% CI.

Chapter Four: Discussion

The present meta-analysis aimed to examine the current state of research and corresponding findings on culturally adapted SEL programs for racially and ethnically minoritized (REM) youth through systematic review and examination of effects across several student outcome domains (i.e., racial/ethnic identity, SEL skills, attitudes, prosocial behavior, conduct problems, emotional distress, and substance use). Although there are meta-analyses that have examined the effects of cultural adaptations of psychotherapies or SEL programs that were not limited to culturally adapted programs, the present study was the first meta-analysis that examined the cultural adaptation efforts in school-based SEL programs and their effectiveness on REM youth. Of note, despite rigorous attempts to include unpublished, grey literature throughout the literature search stage, only the published journal articles and dissertation studies that fully met inclusion criteria were included in the meta-analysis. As can be seen from the assessment of potential publication bias, studies appeared to favor and report affirmative effects, and in Leff et al. (2010), the descriptive statistics summary was missing for some of the outcomes with null effects. Therefore, the findings are somewhat limited and should be interpreted with caution.

The descriptive analysis demonstrated the current state of research, including the characteristics of commonly studied culturally adapted SEL programs, student demographics, and study designs. Across the 33 included studies, culturally adapted SEL programs were found to be most commonly delivered by researchers or classroom teachers/school staff. Similar to the findings from previous meta-analyses on school-based universal SEL programs (Durlak et al., 2011), the majority of the culturally adapted SEL programs included in the present meta-analysis met the SAFE SEL criteria, with adequate efforts to ensure that SEL lessons were sequenced with skill building on top of the learned skill, involved active student participation, focused sufficient time on lesson learning, and explicitly targeted specific social-emotional skill (e.g.,

self-awareness, responsible decision-making). Concerning cultural adaptation characteristics, the most commonly used cultural adaptations were incorporating metaphors, content, or concepts that are widely used in the target population's culture and aligning program goals to address unique stressors that are commonly experienced by the target population (e.g., acculturative stress, instilling strong cultural identity, counteracting the impacts of historical trauma, increasing awareness around racism and teaching ways to cope with racism). Yet, it is possible that merging these similar types of adaptation into a single category may have led to such a finding. Matching the interventionists' cultural identity with the students' (i.e., *Person* adaptation) was less frequently used across the studies. Unlike the existing literature that has found language to be the most adapted domain (e.g., Brown et al., 2018), language adaptation was not as frequently made across the included studies. In addition to cultural adaptations made for students' race/ethnicity, about a quarter of programs made additional adaptations to account for gender-specific issues and/or geographic locale that students were in. Moreover, programs were notably less likely to utilize partnerships with families compared to communities. Regarding student demographic characteristics, the most studied race/ethnic groups were Latinx youth followed by Black/African American youth. Culturally adapted SEL programs were largely implemented among middle and high school students in the present meta-analysis, whereas most school-based universal SEL programs have been studied with elementary school age populations (Durlak et al., 2011). The most used research method for examining the effectiveness of culturally adapted SEL programs appeared to be non-randomized, quasi-experimental, or single-group pre-posttest designs that are less rigorous compared to study designs that utilize random assignments with comparison groups.

The descriptive analysis further pointed to areas where current research was lacking. Specifically, culturally adapted SEL programs that assessed program effects on Asian-American Pacific Islander/Desi-American and multiracial populations each made up less than 1% of total participants across all studies in the sample. For multiracial populations, it seemed that either multiracial students self-identified themselves in a mono-racial category that they identified more closely with, or researchers did not collect more specific data on demographic characteristics but instead consolidated them in a single group (e.g., 100% African American, 100% Latinx). Furthermore, culturally adapted SEL programs were assessed primarily in an urban setting and were rarely assessed for REM youth living in either suburban or rural settings. Additionally, studies with one or more comparison group(s) rarely compared the culturally adapted SEL program to an alternative intervention. More importantly, none of the included studies compared culturally adapted SEL programs to the same SEL program without cultural adaptation. A significant number of studies lacked key details about the intervention delivery. Namely, more than one-third of the total studies included for analysis did not report dosage. Treatment fidelity (i.e., mean percentage of adherence to the intervention protocol) was measured and reported for < 15% of the total studies, whereas the other 85% of the studies did not measure or report fidelity. More than a quarter of studies did not report who delivered the intervention to the students.

Overall, the findings from the present meta-analysis indicated that SEL programs that were culturally adapted to better meet the needs of REM youth yielded positive intervention effects at posttest across seven student outcomes, including racial/ethnic identity, SEL skills, attitudes toward self, school, and others, positive social behavior, conduct problems, emotional distress, and substance use. However, the magnitude of the effects and statistical significance

differed across different outcomes, as some outcomes (e.g., racial/ethnic identity, emotional distress, substance use) were not statistically significant from the null effect. Particularly, even though many culturally adapted SEL programs deliberately focused on promoting racial/ethnic identity among REM youth, the finding was not as robust as it was anticipated. For the outcomes that were statistically significant, including youth's SEL skills, attitudes, positive social behavior, and conduct problems, the mean effect size estimates were larger than those that were found in previous meta-analyses of school-based universal SEL programs (Durlak et al., 2011; Payton et al. 2008; Taylor et al., 2017).

Based on the statistical tests that assessed potential moderators, none of the student demographic variables (i.e., students' race/ethnicity, age, gender, and clinical risk level) moderated the intervention effect on overall student outcome. Additionally, some of the key predictor variables were not included in the model due to the significant missing data (e.g., SES, level of acculturation). It is likely that a meta-regression analysis with a greater number of effect size estimates as well as a regression model with additional demographic variables will add more confidence to the finding.

The regression analysis was performed to assess the variance of effect size estimates by types of cultural adaptation. The results indicated that there is a significant overall effect of cultural adaptation of SEL programs on student outcomes. However, based on the data available, any clear conclusion could not be drawn about which specific type of cultural adaptation leads to a better student outcome. The result was incongruent with the findings from the previous meta-analysis of culturally adapted mental health interventions (i.e., Griner & Smith, 2006) which found a significant effect of language adaptation on the mental health outcome. Additionally, the finding was not consistent with the hypothesis that adaptations that involve deep structure

adaptation (e.g., involve changes in the program with respect to youth's social, psychological, and environmental context) may be more effective than adaptations that involve more surface-level changes. However, the results should be interpreted with caution as the coding scheme used in the present analysis failed to capture the quality or degree of cultural adaptation. It is likely that a more sensitive coding scheme (e.g., code each adaptation based on its quality) will allow for a clearer analysis of moderating effects.

Additionally, unlike the previous meta-analyses that favored the SEL program delivered by classroom teachers (Payton et al., 2008), the present meta-analysis found the opposite to be true in that statistically significant intervention effects were found for all other interventionists *but* for classroom teachers/school staff. Almost all studies did not specify the number of hours required for training interventionist; a possible explanation is that teachers may have required more extensive training on delivering culturally adapted SEL programs compared to other interventionists (e.g., researchers, peer, school-based mental health providers) who are often members of the cultural group or are more knowledgeable about culturally responsive mental health practice.

Consistent with the findings from several meta-analyses in favor of SAFE criteria (Durlak et al., 2011; Payton et al., 2008; Taylor et al., 2017), the present meta-analysis also found strong evidence in support of the use of SAFE criteria. When culturally adapted programs were sequenced, active, focused, and explicit in teaching SEL skills, the programs yielded significantly stronger intervention effects compared to those that were missing at least one SAFE criterion.

In regard to the types of partnership, the regression analysis suggested that even though a typical usage of partnership across the studies was significantly associated with a more positive

student outcome, neither the family nor community partnership, individually, had a significant impact on student outcome across the studies. It is likely that the partnership may be better examined through additional predictors, such as the extent of partnership, fidelity of partnership, and type of partnership (e.g., consultation during program development, parent coaching, continued implementation of program in the home setting).

Limitations

There are several limitations in the meta-analysis beyond the selective reporting bias mentioned above. Most importantly, the cultural adaptations made in the intervention were coded while solely relying on the authors' reporting. It is possible that there may have been adaptations that were made inadvertently that were not explicitly described by the authors in their report. Whenever there were two or more studies published by the same research team in which the same culturally adapted program was examined with different samples, the additional information on cultural adaptation made to the program, which may have been otherwise overlooked, was captured and used for the analysis. Nevertheless, as it is the case for all meta-analyses, reliance on authors' reporting made it difficult to extract all necessary details for a more robust analysis.

Second, the meta-analysis did not account for the degree or quality of the cultural adaptation due to the binary coding scheme used for different cultural adaptations. For example, a study that used focus groups from community partners to develop program content was coded the same way as a study that used focus groups from community partners as well as caregivers or other expert consults. It is likely that a coding system that accounts for varying degrees of cultural adaptation is better able to detect the moderating effects of cultural adaptation on program outcomes.

Third, the included studies did not always report on the cultural appropriateness of the outcome measurements to the target population, and the measurements that were used to assess REM youth's responsiveness to intervention at the pretest and posttest may lack cultural sensitivity as to how youth from different cultures understand and report their SEL skills and psychological symptoms. Nevertheless, the comparison between the treatment and control group (e.g., RCT, cluster randomized control trials, block randomized control trials, quasi-experimental) or between pretest and posttest likely would have controlled for this potential bias.

Fourth, all studies included in this meta-analysis, with exceptions for the single-group pre- and post-test designs, compared REM youth who received culturally adapted SEL program to those who were in a comparison condition that did not receive any intervention (e.g., business-as-usual, waitlist control) or participated in a program with content that was distinct from that of the treatment group. As a result, a more direct comparison between the culturally adapted SEL program and the non-adapted program was not possible.

Fifth, programs that exclusively focus on promoting social-emotional skills among caregivers and teachers without any student SEL were excluded from the current analysis to ensure that the SEL programs in the sample were comparable to one another. Adult modeling of SEL skills can be an effective way to reinforce social-emotional skills among children and adolescents in their immediate environment. Additionally, considering that various literature has emphasized the importance of enhancing teachers' understanding of cultural diversity and anti-bias teaching (e.g., staff professional development on increasing cultural awareness, reducing bias, utilizing culturally responsive instructional strategies), culturally adapted SEL programs that target teachers can be an effective way to improve the teacher-student relationship and strengthen students' social-emotional skills. For similar reasons, SEL programs that were

delivered across multiple tier levels and that were embedded in the core curriculum (e.g., SEL-focused history class) were not included in the analysis. However, including multi-level SEL programs and adult SEL programs in the analysis may lead to a lack of clarity in understanding whether the effect was solely based on the curriculum-based programs delivered to students or other aspects of the program.

Sixth, SEL programs that were strictly delivered in the community setting were not included in the analysis to ensure that the focus was on school-based practice. However, considering that some programs are offered in community settings as part of their cultural adaptation effort to increase student participation and engagement by utilizing a setting where youth feel comfortable and less stigmatized, incorporating these studies in future analyses would be valuable.

Lastly, follow-up assessment data was excluded from the present meta-analysis to increase the comparability of the interventions. Various substance use programs examined by Schinke et al. (2000) and Moran and Bussey (2007) both revealed that the intervention effect was larger at the 42-month follow-up and 1-year follow-up, respectively. Considering that some of the positive youth development programs that incorporate partnerships with parents or community members have lasting effects on youth's wellbeing, the effectiveness of some of the culturally adapted SEL programs may be different at the follow-up compared to the immediate posttest results.

Implications for Practice

The findings from the present analysis suggest that SEL programs that are culturally adapted to better meet the needs of REM youth are effective in promoting racially and ethnically minoritized youth's social-emotional learning skills, adaptive attitudes toward self and others,

and positive social behaviors, and decreasing conduct problems. Despite several culturally adapted SEL programs that targeted positive racial/ethnic identity, the results did not find a statistically meaningful effect on students' racial/ethnic identity, requiring further examination that could explain the modest effect. Additionally, considering the null effect on emotional distress and substance use, REM youth at risk for these behavioral problems may require more intensive intervention programs than those that were included in the present analysis.

Consistent with the findings from previous meta-analyses that examined school-based universal SEL programs (Durlak et al., 2011; Payton et al., 2008; Taylor et al., 2017), the adherence to the SAFE criteria continued to be crucial for culturally adapted SEL programs in yielding more favorable intervention outcomes. Therefore, developers of culturally adapted SEL programs should continue to ensure that lessons are structured and delivered in a way that aligns with what is known about effective teaching strategies. Such strategies include creating a sequenced lesson plan where one skill builds on top of the other, offering opportunities to practice the learned skill through role-plays and behavioral rehearsals, ensuring that sufficient time is dedicated to teaching the SEL skill, and explicitly targeting specific SEL skills (Durlak et al., 2011).

Based on the findings from the present analysis, a definite conclusion could not be drawn concerning the particular type of cultural adaptation that results in improved student outcomes. While findings are unclear, it is likely that a combination of these different types of cultural adaptations led to more favorable program outcomes. The results appear to indicate that it may be a combination of both deep structure adaptations (e.g., aligning program goals with social, economic, political, and historical experiences of students) and surface structure adaptations (e.g., involving adaptations to cultural aspects that are more readily observable, such as language

or scenarios in the curriculum) that jointly lead to more positive student outcomes and that cultural adaptations may not be considered in isolation. Even though the current meta-analysis result was not able to pinpoint which type of cultural adaptation should be prioritized when developing and implementing culturally adapted SEL programs, practitioners are still recommended to consider various aspects of the program (e.g., content, language, person, metaphor, goals) that may engage both deep and surface structure adaptations and persistently question whether there are areas that could be modified or adapted to better fulfill the needs of REM youths. Studies included in the present meta-analysis often used a combination of various types of cultural adaptations to ensure that the materials were readily accessible and directly tied to the daily experiences of the target REM community. Practitioners are encouraged to reference Appendix F which summarizes the commonly found examples of cultural adaptations across the studies included in the present meta-analysis.

Similarly, even though neither type of partnership (i.e., with family nor with the community) in isolation was significantly associated with student outcomes, practitioners are encouraged to consider involving the partnership with key stakeholders throughout the various stages of the culturally adapted SEL program (e.g., program development, implementation, and evaluation). Especially when working with families from marginalized backgrounds, school practitioners are recommended to proactively remove any barriers that may hinder family-school collaboration (e.g., biases, deficit thinking). Practitioners are also advised to employ proactive and bidirectional communication, along with shared decision-making (Garbacz et al., 2023). Furthermore, when creating a community task force for culturally adapting SEL programs, community members should consist of individuals who are knowledgeable in cultural practices and are familiar with the community context and thus speak to common issues that students face

(Goodkind et al., 2010; Graves et al., 2018). Additionally, involving community members in developing and implementing the program not only increases the sense of ownership and involvement in promoting the positive development of REM youth but also equips the community with a strong infrastructure so that they can continue to implement the program once the research team exits the community at the end of the study (Jonen, 2003). It is encouraged that community members are involved throughout the implementation of culturally adapted SEL programs, including program development, implementation, and outcome evaluation (Hopson, 2006).

Unlike universal, school-based SEL programs that are known to be most effective when delivered by classroom teachers, culturally adapted SEL programs appeared to be more effective when they are delivered by other interventionists who did not identify as schoolteachers (e.g., researchers, peers, school-based mental health providers). When culturally adapted SEL programs are delivered by classroom teachers or school staff as interventionists, closer attention should be given to ensure that teachers and school staff receive sufficient training and support in mastering content materials and delivering the culturally adapted SEL program with adequate fidelity and competency.

Future Research Directions

As mentioned in the Limitations, the present meta-analysis was only able to capture the presence of cultural adaptation by its types (e.g., language, persons, metaphor/content/concept, goals/context, methods) and was unable to capture the quality (i.e., rigor and the degree to which cultural adaptation was made). The insufficient details on specific types and degrees of cultural adaptation documented by the researchers may continue to hinder the effort to better understand empirically supported cultural adaptation. Nevertheless, creating a fidelity inventory of cultural

adaptation based on well-known cultural adaptation frameworks (e.g., Bernal's ecological validity model) and similar conceptual models may assist researchers and practitioners in systematically documenting and assessing cultural adaptations. The utilization of such tools will then facilitate with capturing the nuances of cultural adaptation with increased sensitivity and better inform SEL programs in schools.

Additionally, future research should further unpack the pathway between culturally adapted SEL programs and more positive social-emotional development in REM youth. Such research may clarify how SEL programs that specifically target supporting REM youths in their developmental tasks (e.g., adaptive racial/ethnic identity, coping with acculturative stress, connections to their unique cultural values and resources which are known to be protective factors) influence the youth's social-emotional outcomes. To further examine the pathway, researchers could assess the level of acculturative stress, sense of racial/ethnic identity, and contextual factors (e.g., teacher bias, sense of belonging, respectful and inclusive classroom environment) that could influence the social and emotional experience of REM youth. Researchers may also consider specifically detailing the components of the intervention, which could include a partnership with key stakeholders and in-service training for teachers on anti-racism and bias reduction and culturally responsive practices.

Lastly, most of the studies included in this analysis compared a group that received culturally adapted SEL programs to a comparison group that did not receive any treatment (e.g., waitlist control, business-as-usual). Future meta-analysis may consider limiting the comparison group to an active control group that receives an equivalent SEL program that was not culturally adapted or a similar universal SEL program that is designed for all youth (i.e., not limited to REM youth).

Conclusions

The goals of the current meta-analysis were to examine the effectiveness of culturally adapted SEL programs delivered to REM youth across group design studies and potential moderating variables (e.g., student demographic characteristics, SEL program characteristics, types of cultural adaptations) that lead to favorable intervention outcomes. Various student outcomes were examined, including REM youths' racial/ethnic identity, SEL skills, attitudes, positive social behaviors, conduct problems, emotional distress, and substance use, and statistically significant intervention effects were found for SEL skills, attitudes, positive social behavior, and conduct problems. Conversely, the effects on racial/ethnic identity, emotional distress, and substance use were not statistically significant from the null. The moderator analyses suggested strong evidence in favor of culturally adapted SEL programs that adhered to the SAFE SEL criteria (i.e., sequenced, active, focused, and explicit). Additionally, results indicated that culturally adapted SEL programs that were delivered by researchers, school-based mental health professionals, or other community members were more effective compared to those that were delivered by classroom teachers or other school staff. In contrast to the findings from Payton et al.'s (2008) meta-analysis that found strong intervention effects associated with school-based universal SEL programs delivered by teachers, the culturally adapted SEL programs delivered by classroom teachers or school staff appeared to lack strong support and therefore require further examination. In regard to cultural adaptation and partnership, the use of such strategies in SEL programs was linked to significant improvement in student outcomes; however, none of these strategies in isolation was significantly associated with student outcomes. The findings from the present meta-analysis point to the need for further research that compares the effects of different types of cultural adaptations with greater sensitivity, compares the effects

of culturally adapted SEL programs to the equivalent non-adapted SEL program, and unpacks the relationship between the effects of culturally adapted SEL programs on REM youth outcomes through additional exploratory research.

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Studies included in the current meta-analysis are indicated with an asterisk (*).

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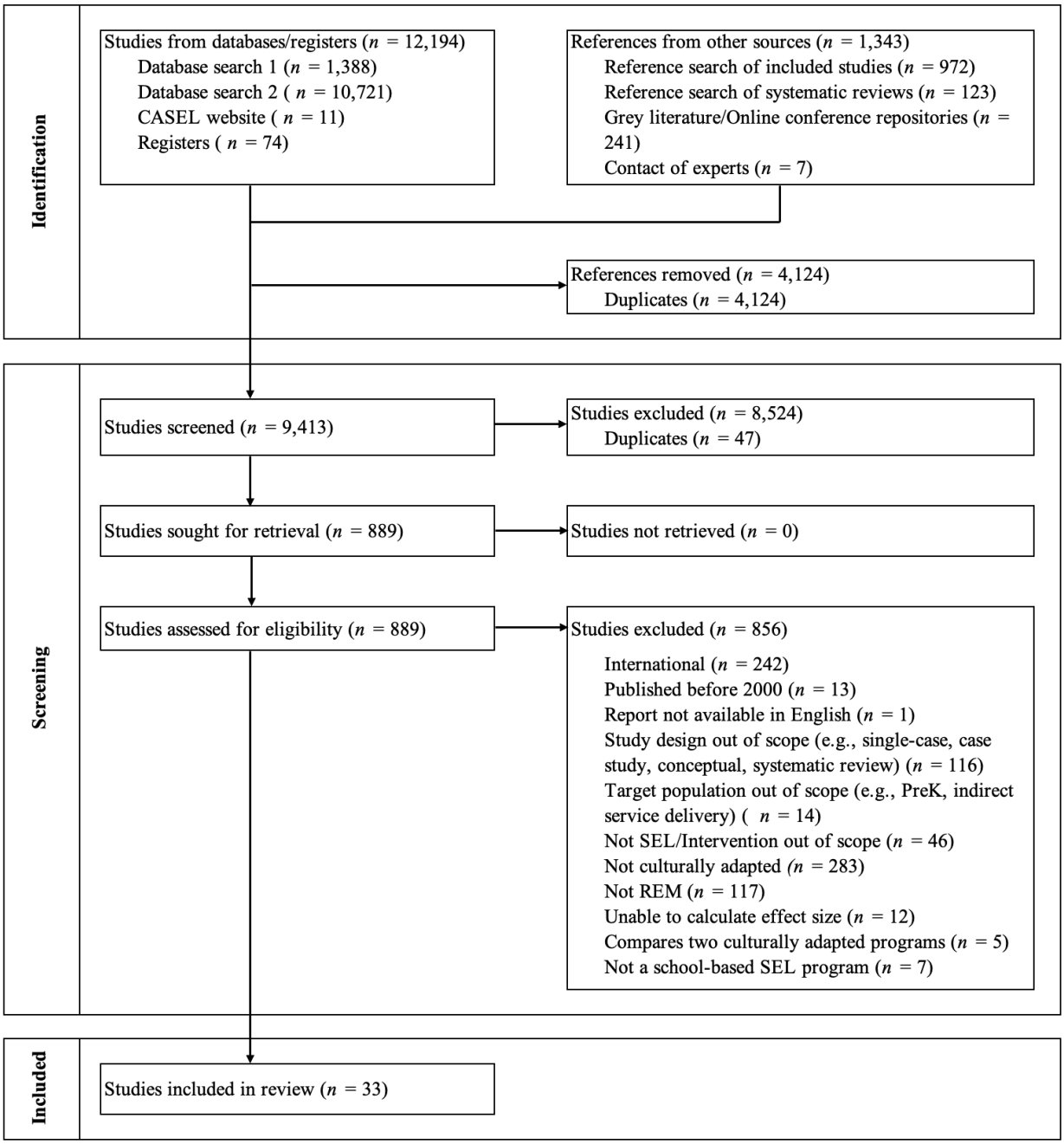
Appendix A

PRISMA Flow Chart



Appendix B

A Meta-analysis of Culturally Adapted Social-Emotional Learning Programs for Racially and Ethnically Minoritized Youth

The coding manual is divided into nine sections:

(1) Report characteristics (Table B1)
(2) Culturally adapted SEL program characteristics (Table B2)
(3) Cultural adaptation characteristics (Table B3)
(4) Setting characteristics (Table B4)
(5) Participant and sample characteristics (Table B5)
(6) Study design characteristics (Table B6)
(7) Outcome characteristics (Table B7)
(8) Effect size information (Table B8)
(9) Coder and coding process characteristics (Table B9)

Each section is presented in a table with the related coding variables, the variable descriptions or examples, and the quantity to be entered into the coding excel document.

Table B1

Report Characteristics

Coding Variable	Description & Example(s)	Quantity
Report ID Number	Unique ID assigned for each report.	Enter the first author's last name and year of publication (e.g., Im2023) in the column titled, "ReportID."
First Author Last Name	The last name of the first author as listed on the manuscript (e.g., Im)	Enter the last name of the first author in the column titled "Author."
Year Published	The year published as documented on the publication (e.g., 2023)	Enter the four-digit year of publication in the column titled "Year."
Type of Publication	The type of publication, coded as either a journal article, doctoral dissertation, or other (e.g., conference paper, unpublished paper).	In the column titled "PubType," enter: 1 = Journal article 2 = Doctoral dissertation 3 = Conference paper 4 = Other

Report Notes	Any questions about coding variables and/or interesting or unique notes about report characteristics not captured by the variables above.	In the column titled "Report Notes" type in any questions or notes. If none, enter NA.

Table B2

Culturally Adapted SEL Program Characteristics
Record program characteristics of the culturally adapted intervention (experimental group) NOT the control group.

Coding Variable	Description & Example(s)	Quantity
Culturally Adapted SEL Program Name	Name of the intervention program	Enter the name of the SEL program that is being evaluated in the column titled, "Culturally Adapted ProgName."
Comparison Program Name	Name of the program that is being used in the comparison condition (e.g., active control condition, business-as-usual, waitlist control).	Enter the program name for business-as-usual or active control condition in the column titled, "Comparison ProgName." Enter "waitlist" or "no treatment" accordingly if there is no program for comparison group. Enter "NA" if there is no comparison group.
Type of interventionist	The person implementing the intervention directly to the students/youth as identified in the article: Researcher (graduate student, research team member, undergraduate, principal investigator) Classroom teacher (general education or special education teacher) School-based mental health provider (school psychologist, social worker, behavioral resource teacher) Out-of-school mental health provider (psychologists, nurses in the community)	In the column titled, "Interventionist," enter: 1 = researcher/university personnel 2 = classroom teacher/school staff 3 = school-based mental health provider 4 = out-of-school mental health provider 5 = caregiver 6 = other (e.g., community volunteer, staff in the community center, peer-led) 7 = multiple *-99 = not reported (missing information)*

	Caregiver (parents, guardians) Other interventionist (community volunteer, non-licensed community-based paraprofessionals, college students) Multiple (combination of several types of interventionist, e.g., parents and a researcher)	
Dosage	The total number of intervention minutes as described in the article (e.g., "twelve 50-minute sessions").	In the column titled, "Dosage," enter the intervention dosage as reported. Copy and paste exact quotes using quotation marks. *-99 = not reported (missing information)*
SAFE (Durlak et al., 2011)	Program used SAFE (sequenced, active, focused, explicit), a recommended practice for teaching culturally adapted SEL skills. S: program is sequenced where each skill builds on one another. A: program is interactive in nature and actively engages students to master SEL skills (e.g., role-plays, other rehearsal strategies) F: program is focuses sufficient time on skill development (i.e., a time set aside for SEL programming). E: program explicitly targets specific SEL skills (e.g., self-regulation, perspective taking, positive decision making)	In the column titled, "SAFE" enter: 0 = criteria not met (at least one component missing) 1 = all criteria met
Intervention Notes	Any questions about coding variables and/or interesting or unique notes about intervention characteristics not captured by the variables above.	In the column titled, "Intervention notes," type in any questions or notes. If none, enter NA.

Table B3

Cultural Adaptation Characteristics

Record cultural adaptation characteristics of the culturally adapted intervention (experimental group) NOT the control group.

Coding Variable	Description & Example(s)	Quantity
Specificity of Cultural Adaptation	Indicate whether program was developed for each of the specific cultural/identity group (select all identity variable that apply): RE: intervention specific to certain race/ethnic groups Gender: intervention specific to certain sex/gender group SES: intervention specific to certain socio-economic status (e.g., low income) group Locale: intervention specific to certain locale group (e.g., urban or rural)	In each of the four columns titled, "Spec_X," enter: 0 = intervention not specific to this identity group 1 = intervention developed for this identity group In "Spec_Other," enter the relevant identity group not captured above (e.g., ELL, single parent household).
Cultural Adaptation Model	Cultural adaptation model or a key theoretical framework that was used to adapt or modify the content of the intervention (e.g., ecological validity model, Transformative SEL, etc).	In the column titled, "Framework," enter the name of the cultural adaptation model and/or a key theoretical framework that were used to make the cultural adaptation. Do not include a general theoretical framework that has less to do with cultural adaptation (e.g., cognitive behavioral theory). Enter "None" if there wasn't any framework that was used.
Intended Culture	Program was intended to be delivered to a specific cultural group vs. program was intended to be delivered to any racial/ethnic minority group.	In the column titled, "Intended_Culture" 0 = intended for any REM youth (e.g., intervention might focus on issues that are commonly experienced by REM youth). 1 = intended for a specific cultural group or more appealing to a specific race/ethnic group.

Dimensions of Cultural Adaptation	Check all cultural adaptation that SEL programs made. Language (Lang; using language that is familiar to clients) Ex**:** intervention materials were translated to Spanish; students given option to receive intervention in the language of their preference; explicit mention of using culturally appropriate language (that may not involve translation). Persons (Persons; lessons delivered by individual with similar cultural characteristics) Ex: bilingual/bicultural interventionist; interventionist shares race/ethnic identity with students. If interventionist is not specified, code as "-98" Metaphors/Content/Concepts (MCC; using idioms, concepts, or symbols commonly used in students' culture, including examples/intervention materials that are relevant to students' culture) Ex: using vignettes and case examples that are culturally relevant; intervention incorporates traditional values (e.g., spirituality, harmony, etc), history, and literature that is salient to the culture. Goals/Context (Goals; aligning program goals with social, economic, political, and historical experiences of students. Addressing the risk factor (e.g., acculturative stress, immigration issues, racism/discrimination) and fostering culturally relevant protective factors; Ex: coping with acculturative stress and migration; coping with racism; increase social support between students and respected Native American elders in their community; counteract the effects of intergenerational trauma.	In each of the five columns titled, "Dim_X," enter: 0 = cultural adaptation was not made in this domain 1 = researchers made cultural adaptation in this domain. *-98 = unclear; questionable* In the "X_Notes" columns followed by each dimensions, copy and paste the direct quotes from the report that states the adaptation that was made (e.g., "the interventions included principles which promote African American cultural values such as unity, self-determination, and responsibility…").

	Methods (Methods; using consultation with community members or focus groups to develop program content and any changes they made in the delivery of program to make sure the implementation/participation is more successful) Ex: formed task force with parents, community advocates to successfully implement program; conducted focus groups with cultural liaisons to ensure adaptations were acceptable	
Staff Training	Indicate whether SEL program involved school staff training	In the column titled, "StaffTraining," indicate: 0 = no school staff training; not reported 1 = there is a school staff training
Partnership with Families	Indicate whether families collaborated in the development and/or implementation of the program (including parents' participation in the intervention). Parents' participation should be more meaningful than sending a flyer home. At the very least, an example of partnership with families could include attending optional informational sessions where parents can learn content to reinforce child's learning.	In the column titled, "Partnership_Fam," indicate: 0 = no partnership between interventionist and families 1 = there was a partnership during the development and/or implementation of the program to ensure that the SEL content reflects the needs of the youth.
Partnership with Community Members	Indicate whether community members (non-school staff members) collaborated in the development and/or implementation of the program.	In the column titled, "Partnership_Comm," indicate: 0 = no partnership between interventionist and community members 1 = there was a partnership during the development and/or implementation of the program to ensure that the SEL content reflects the needs of the youth.

Cultural Adaptation Notes	Any questions about coding variables and/or interesting or unique notes about cultural adaptation process of the intervention not captured by the variables above.	In the column titled, "CA Notes," type in any questions or notes. If none, enter NA.

Table B4

Setting Characteristics

Coding Variable	Description & Example(s)	Quantity
Community Type	Indicate whether the intervention was implemented in an urban, suburban, and/or rural community, as identified by the publication.	In the column titled, "CommType," enter: 1 = Urban 2 = Suburban 3 = Rural 4 = Multiple 5 = Tribal community/Indian reservation *-99 = not reported (missing information)*
Setting Type	Type of setting the intervention was delivered. If it was an intervention with multiple components (I.e., parent training in the community setting at night, code as "5" (multiple). Optional homework assignments completed at home or videos watched in the community setting does not count.	In the column titled, "SettingType," enter: 1 = School 2 = Local community center 3 = Clinics 4 = Other 5 = multiple *-99 = not reported (missing information)*
School Hours	The time of the day the intervention curriculum was delivered (e.g., during school hours, after school, summer program). If the intervention directly involves multiple components (i.e., parent training in the evening, code as "3").	In the column titled, "SchlHrs," enter: 0 = afterschool program 1 = during school hours 2 = summer program 3 = involves multiple (e.g., during school and after school) *-99 = not reported (missing information)*

Setting Notes	Any questions about coding variables and/or interesting or unique notes about setting characteristics not captured by the variables above.	In the column titled, "Setting notes," type in any questions or notes. If none, enter NA.

Table B5

Participant and Sample Characteristics

Some studies may have multiple samples within a single study (e.g., clinically at-risk vs. not at risk OR Grade 2 vs. Grade 3). Assign unique sample ID number and code the participant and sample information separately by coding the information on a separate row in the coding sheet. Participant and sample characteristics should reflect the total sample (across experimental groups), unless there are sub-samples, which you will code on a separate row. For example, if there are subsamples (e.g., Grade 2 vs. Grade 3), rows for Grade 2 should only include sample characteristics for Grade 2 only (separate from Grade 3).

Coding Variable	Description & Example(s)	Quantity
Sample ID	The unique ID number for each sample in the study *(e.g., clinically at-risk vs. not at risk OR Grade 2 vs. Grade 3.*	If there are two or more samples in the study, enter the Report ID and a number starting from "1" (e.g., Im2023_1, Im2023_2…) in the column titled, "SampleID." If there is one sample group in the study, enter Report ID number and "X" (e.g., Im2023_X).
Sample Description	Brief description of the unique sample.	In the column, "Sample_descr," provide a one- or two-word description of the unique sample. Enter "NA" if there is one sample group.
Total Number of Participants	Total number of student participant in the sample.	In the column, "TotalN," enter the total number of student participants in the sample.
Race and Ethnicity	The race and ethnicity of participants in the sample. If sample racial/ethnic demographic is not available, indicate school-level demographic. Black/African American Latinx/Hispanic White/Caucasian	In the seven columns titled, "REM_X", enter the percentage of students in each racial/ethnic category in the sample.

	Asian American/Pacific Islander Native American/Alaskan Native/Indigenous Multi-Racial NR: any other participants whose race/ethnicity are not specified	*-99 = not reported (missing information)*
Grade	The grouping of participants' school grades. For longitudinal studies, grade should be reflective of the time when the intervention was delivered. Early elementary (EE; kindergarten – 2nd grade) Late elementary (LE: 3rd grade – 5th grade) Middle school (Mid: 6th grade – 8th grade) High school (High: 9th grade – 12th grade)	In the four columns titled, "Grade_X," enter: 0 = no participants from this grade level 1 = participants were from this grade level *-99 = not reported (missing information)*
Age	The mean age of participants in the sample at the time of pretest.	In the column titled, "Age," enter the mean age of participants in the sample (rounded to the nearest hundredth of a decimal, e.g., 13.25). If the mean age was not computed, enter the age range. *-99 = not reported (missing information)*
Gender	The percentage of participants who are identified in the article as female, male, and gender non-binary.	In the three columns, "Gender_X," enter the percentage of students in each gender category within the sample. Assume reports are using gender-binary unless otherwise specified in the report.
SES	Socioeconomic status of participants in the sample.	In the column titled, "SES," indicate how SES was reported for the sample. It is

		preferred to indicate participants' SES, but indicate schoolwide level SES if the participant-level SES is not provided. 0 = predominantly (>60% of participants) low-income, working-class family 1 = predominantly (>60% of participants) upper/middle class 2 = No predominant SES (socioeconomically diverse) *-99 = not reported (missing information)*
Clinical	The clinical profile of group participants in the sample.	In the column titled, "Clinical," enter: 0 = there is no description that participants were presenting with mental and behavioral health problems (e.g., students may be receiving a prevention program at the universal/tier 1 level). 1 = participants have mental and behavioral health problems and are considered at risk/clinical as measured using a mental health screener or some existing criteria developed by the researchers. 2 = researcher explicitly reports that the sample includes participants with a mix of clinical presentation
Acculturation Status	Acculturation level of participants as reported in the study. Acculturation is defined as "the degree to which members of minority groups are socially integrated into the dominant culture where they reside" (Lopez-Class et al., 2011 as cited in Adams &	In the column titled, "Acculturation," enter: 0 = predominantly (>60% of participants) low level of acculturation (e.g., recently immigrated)

	Boscarino, 2013). Acculturation is mostly discussed for immigrants but sometimes have been used for US-born REM youth who operates in predominantly White setting.	1 = predominantly (>60% of participants) high level of acculturation (e.g., 2nd or 3rd generation Latinx) 2 = mixed (no predominant acculturation level) *-99 = not reported (missing information)*
ELL Status	English language proficiency of the participants as reported in the study.	In the column titled, "ELL," enter: 0 = Predominantly English language learners (>60% ELL; recently immigrated from non-English speaking country; beginning, developing, lower, early English language proficiency; considered ELL by their state criteria). 1 = Predominantly non-ELLs (>60% fully bilingual; expanding, bridging, reaching, higher, or fluent English language proficiency; considered non-ELL by their state criteria). 2 = mixed (no predominant ELL status). *-99 = not reported (missing information)* NA = All participants speak English as their native language (e.g., Black/African American).
EL Determination	Description on how English learner was determined (e.g., home language used, ELP proficiency measure) by the researchers.	In the column titled, "EL Determination," provide description on how the researchers determined English language learners in their study. Enter NR if not reported. Enter NA if majority participants are not ELL.

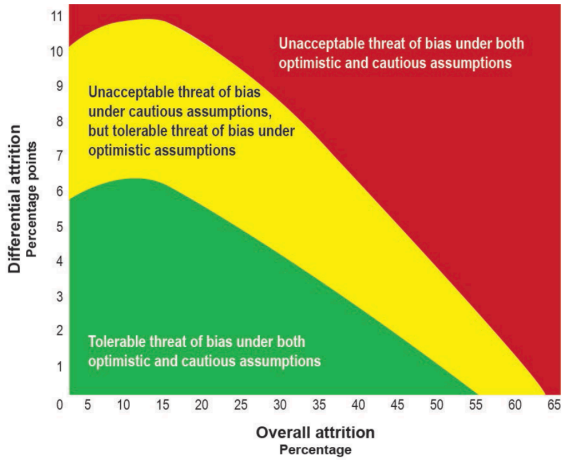
Participant and Sample Notes	Any questions about coding variables and/or interesting or unique notes about participant and sample characteristics not captured by the variables above.	In the column titled, "Participant Notes," type in any questions or notes. If none, enter NA.

Table B6

Study Design Characteristics

Coding Variable	Description & Example(s)	Quantity
Design Type	The type of research design to assess the outcome.	In the column titled, "Design," enter: 0 = Randomized control trial 1 = cluster randomized trials 2 = Quasi-experimental 3 = Single-group 4 = randomized block design If "Other", specify. -*98 = questionable; unclear*
Randomization	The process in which group participants were placed in each of the group	In the column titled, "Randomization," enter: 0 = randomized (e.g., RCT, cluster randomization) 1 = not randomized (e.g., quasi-experimental or group equivalence, non-experimental) -*98 = questionable; unclear*

Comparison Group	The type of comparison group. Waitlist control: the group starts receiving the intervention after the study ends. The group does not receive any treatment. Business as usual (BAU): the group receives some kind of SEL program that are typically provided in the setting (e.g., PBIS, gym lesson). Also includes comparison group that is participating in a program that the intervention group is also participating in. Active control: the group receives an alternative intervention that they would not necessarily get if the study did not take place.	In the column titled, "CompGroup," enter: 0 = waitlist control; business as usual; no treatment 1 = active control group 2 = multiple experimental groups (e.g., two treatment groups and one control group with no treatment). NA = not applicable (single group study without a comparison group)
Comparison Group_2	The difference between the treatment conditions is that one intervention was traditional intervention while the other one was culturally adapted.	In the column titled, "CompGroup_2," enter: 0 = No 1 = Yes (the study compares culturally adapted intervention vs. not adapted intervention) NA = not applicable (single group study)
Assignment Level	The level in which treatment/comparison groups were assigned (e.g., school, classroom, student, other). Consider whether individual students were assigned to the treatment conditions or whether classrooms or schools were assigned to the treatment conditions.	In the column titled, "AssignLvl," enter: 0 = school-level 1 = classroom-level 2 = student-level 3 = other

		NA = not applicable (single group study)
Attrition	The level of bias assessed based on researcher report (as described in the study) or based on the table below. Only consider attrition from pre-test and post-test (NOT the attrition from the follow-up assessments). **Figure II.2. Attrition and potential bias**  	In the column titled, "Attrition," enter: 0 = high level of bias; unacceptable threat of bias under both optimistic and cautious assumptions 1 = unacceptable threat of bias under cautious assumptions, but tolerable threat of bias under op1timistic assumptions 2 = low level of bias; tolerable threat of bias under both optimistic and cautious assumptions; no demographic difference between attritors and non-attritors *-99 = not reported (missing information and impossible to hand calculate overall and differential attrition)*
Attrition Notes	The attrition rates as reported in the study (or hand calculated by coder based on the results table).	Enter notes in the column titled, "Attrition Notes."
Treatment Fidelity	Percentage in which the researchers adhered to the treatment procedure. This is often referred to as treatment adherence, program adherence, procedural fidelity, or treatment integrity.	In the column titled, "Fidelity," enter the percentage of the treatment fidelity rounded to the nearest hundredth of a decimal (e.g., 89.75).

		-99 = not reported (missing information)
Design Notes	Any questions about coding variables and/or interesting or unique notes about the type of design not captured by the variables above.	In the column titled, "Design Notes," type in any questions or notes. If none, enter NA.

Table B7

Outcome Characteristics

Code the below variables separately for each outcome described in the study report. Do not need to enter effect size information on outcomes that are out of scope of this project (e.g., acceptability of the program among teachers).

Coding Variable	Description & Example(s)	Quantity
Effect Size ID	Unique ID number to indicate each outcome. The "Sample ID" number and unique number assigned for each of the unique outcome measured in the study. If the study measures an outcome using two or more measurement (e.g., measures externalizing behavior using BASC-3 teacher report and BASC-3 parent report), assign unique outcome ID for each outcome measure.	In the column titled, "ESID," enter unique number for each of the effect size information.
Target Outcome	An outcome measured in the study (e.g., presents effect size)	In the column titled, "Outcome," enter the outcome that was measured (e.g., SEL knowledge, depressive symptoms, self-efficacy, positive ethnic identity, alcohol use).
Type of Outcome Measure	The type of outcome measure, as identified in the publication.	In the column titled "Measure," enter the measure that was used to assess the outcome (e.g., behavioral observation, BASC-3, GPA).
Construct	A category in which the outcome falls under. Racial/ethnic identity: race-related beliefs, personal values congruent to their racial/ethnic culture importance of their race	In the column titled, "Construct," enter: 0 = racial/ethnic identity

	to their identity, feelings related to their racial/ethnic identity, view on how other people feel about their race/ethnic groups. Social and emotional skills: youth's engagement of social-emotional skills such as self-awareness, self-management, social awareness, relationship skills, responsible decision making, and SEL knowledge as assessed through tests embedded in SEL curricula. Attitudes toward self, school, and others: attitudes toward self (e.g., self-esteem, self-efficacy, and self-concept), attitudes toward school (e.g., attitudes and beliefs around their teachers and learning, school climate, and sense of belonging), and attitudes toward others (e.g., prosocial beliefs, intentions, or attitudes towards other people, justice-oriented actions such as activism, or problem behavior such as substance use or violence). Positive social behavior: frequency of youth's social behaviors that reflect cooperation, help for others, interpersonal problem-solving Conduct problems: frequency and intensity of youth's externalizing problem behavior such as aggression, bullying, disruptive, and/or non-compliant behaviors. Emotional distress: intensity and frequency of youth's internalizing problem behaviors, such as anxiety, depression, trauma, and stress as measured using youth self-report or other informant report (e.g., teacher, caregiver). Outcomes such as locus of control and self-esteem were categorized under "attitudes toward self, school, and others." Academic performance: objective measure of youth's academic performance as measured by grade point average or academic test scores Substance use: youth engagement of substance use (e.g., alcohol, marijuana, tobacco use within 30 months), not including attitudes and perceptions around substance use (e.g., acceptance, refusal).	1 = social and emotional skills 2 = attitudes toward self and others 3 = positive social behavior 4 = conduct problems 5 = emotional distress 6 = academic performance 7 = substance use -98 = not sure
Outcome Notes	Any questions about coding variables and/or interesting or unique notes about outcome	In the column titled, "Outcome notes," type in

	characteristics not captured by the variables above.	any questions or notes. If none, enter NA.

Table B8

Effect Size Information

Complete these questions separately for each outcome described in the study report. Only report the effect size information for the pre-test and post-test (NOT the follow-up assessment data).

Coding Variable	Description & Example(s)	Quantity
Intended Therapeutic Direction	Indicate intended direction of intervention effects for each treatment outcome. Positive: greater scores are favorable (e.g., SEL knowledge, coping skills) Negative: smaller scores are favorable (e.g., alcohol consumption, Depression, Anxiety)	In the column titled, "Direction," enter: 0 = positive 1 = negative *-98 = can't tell/unsure*
Effect Size Information	Include summary statistics (mean, standard deviation, standard error (SE) information for the outcome). Total N: Total sample size tx: Treatment ctl: Control m: mean sd: standard deviation se: Standard error ci: confidence interval t_rm: repeated measures t-test pre: Pre-intervention post: Post-intervention	In the next several columns (starting from "TotalN", enter appropriate summary statistics information. If no statistical information is provided for the specific column, leave it blank.

Statistical Outcome and Effect Sizes Notes	Any questions about coding variables and/or interesting or unique notes about statistical outcomes and effect sizes not captured by the variables above.	In the column titled, “ES notes,” type in any questions or notes. If none, enter NA.

Table B9

Coder Characteristics

Coding Variable	Description & Example(s)	Quantity
Date Coded	The date when the article was coded.	In the column titled, “Date,” enter: month/date/four-digit year (e.g., 5/7/2023)
Coder Initial	Initials of the coder.	In the column titled, “Coder,” enter your initials (e.g., SI).
Coding Notes	Any interesting or unique notes about coding not captured by the variables above.	In the column titled, “Coding notes,” type in any questions or notes. If none, enter NA.

Appendix C

Descriptive Results of Included Studies

Table C1

Descriptive Results of Studies: Report Characteristics

Study	Type of Report
Allison & Ferreira (2017)	Journal article
Belgrave (2000)	Journal article
Belgrave (2004)	Journal article
Brown et al. (2012)	Journal article
Cardemil (2000a & 2000b)	Doctoral Dissertation
Castro-Olivo & Merrell (2012)	Journal article
Castro-Olivo (2014)	Journal article
Castro-Olivo (2021)	Journal article
Clemons et al. (2011)	Journal article
Cramer & Castro-Olivo (2016)	Journal article
Cyril (2020)	Doctoral Dissertation
Domitrovich (2022)	Journal article
Gonzales et al. (2018)	Journal article
Gonzalez-Blanks et al. (2012)	Journal article
Goodkind (2010)	Journal article
Graves et al. (2017)	Journal article
Graves & Aston (2018)	Journal article
Holleran Steiker et al. (2014a)	Journal article
Holleran Steiker et al. (2014b)	Journal article
Hopson (2006)	Doctoral Dissertation
Hopson & Holleran Steiker (2010)	Journal article
Jonen (2003)	Doctoral Dissertation
Jones, Lee, et al. (2018)	Journal article
Kataoka et al. (2003)	Journal article
Kulis et al. (2013)	Journal article

Leff et al. (2010)	Journal article
McLeod et al. (2015)	Journal article
Moran & Bussey (2007)	Journal article
O'Donnell (2012)	Journal article
O'Hearn & Gatz (2002)	Journal article
Thomas (2004)	Doctoral Dissertation
Warren (2006)	Journal article
Whaley & McQueen (2020)	Journal article
Williams et al. (2016)	Journal article

Table C2

Descriptive Results of Studies: Program Characteristics with Target Outcomes

Study	Name of Adapted Program	Type of Interventionist	Dosage (minutes)	SAFE Criteria	Target Outcomes
Allison & Ferreira (2017)	Cognitive Behavioral Intervention for Trauma in Schools (CBITS)	school-based mental health provider	550	Met	traumatic and depressive symptoms
Belgrave (2000)	No name; "an intervention on strengthening resiliency among African American preadolescent girls using a relational and Afrocentric focus."	NR	2,040	Met	African values, racial identity, self-esteem
Belgrave (2004)	Sisters of Nia	NR	1,350	Met	Racial and ethnic identity, relational violence
Brown et al. (2012)	Culturally adapted Second Step	researcher/university personnel	675	Met	Social and emotional knowledge, behavioral and emotional risk
Cardemil (2000a & 2000b)	Penn Resiliency Program (PRP)	researcher/university personnel	1,080	At least one	Depressive symptoms, attributional style, negative

				criteria not met	thought pattern hopelessness, self-esteem
Castro-Olivo & Merrell (2012)	Jóvenes Fuertes	classroom teacher/school staff	NR (12 weekly sessions)	Met	SEL knowledge, internalizing symptoms, acculturative stress, school belonging
Castro-Olivo (2014)	Jóvenes Fuertes	classroom teacher/school staff	NR (12 weekly sessions)	Met	SEL knowledge, resiliency
Castro-Olivo (2021)	Jóvenes Fuertes	classroom teacher/school staff	NR (12 weekly sessions)	Met	Self-awareness, relationship skills, self-management, responsible decision making
Clemons et al. (2011)	The Future Leaders Outreach Network (FLON) programs	NR	315 (middle school); 900 (high school)	Met	Commitment against substance use
Cramer & Castro-Olivo (2016)	Culturally adapted Strong Teens	researcher/university personnel	510	Met	Resiliency, internalizing symptoms
Cyril (2020)	Kingian Nonviolence Conflict Reconciliation training program (KN)	NR	1,800	Met	Aggression, appreciation of relationship, orientation to social justice
Domitrovich (2022)	Facing History	classroom teacher/school staff	NR	Met	Empathy, upstander and prosocial behavior, orientation to social justice, inclusive and respectful classroom culture
Gonzales et al. (2018)	Bridges/Puentes intervention	NR	NR (9 weekly sessions)	At least one criteria not met	Alcohol use

Gonzalez-Blanks et al. (2012)	Collectivist curriculum (substance use)	NR	NR (40-minute weekly sessions)	At least one criteria not met	Behaviors and attitudes around substance use
Goodkind (2010)	Cognitive Behavioral Intervention for Trauma in Schools (CBITS)	Combination (i.e., partnership between school-based mental health clinicians and a school/tribal employee who received training)	NR (10 weekly sessions)	Met	Trauma and internalizing behavior symptoms, coping skills
Graves et al. (2017)	Culturally adapted Strong Start	researcher/university personnel	NR (14 weekly sessions)	Met	Self-regulation, self-competence, empathy, responsibility, externalizing behavior
Graves & Aston (2018)	Brothers of Ujima	researcher/university personnel	NR (12 weekly sessions)	Met	Racial identity/values, resiliency
Holleran Steiker et al. (2014a)	Keepin' it REAL	NR	450	Met	Behaviors and attitudes around substance use
Holleran Steiker et al. (2014b)	Keepin' it REAL for alternative school	NR	450	Met	Behaviors and attitudes around substance use
Hopson (2006)	Keepin' it REAL for alternative school	classroom teacher/school staff	450	Met	Behaviors and attitudes around substance use
Hopson & Holleran Steiker (2010)	Keepin' it REAL	classroom teacher/school staff	450	Met	Behaviors and attitudes around substance use
Jonen (2003)	Violence Intervention/Prevention (VIP program) + Career pathways	classroom teacher/school staff	720	Met	Aggressive behaviors and beliefs around aggression, distress, depression

Jones, Lee, et al. (2018)	Sisters of Nia	researcher/university personnel	540	At least one criteria not met	Racial identity, school belongingness
Kataoka et al. (2003)	Mental Health for Immigrants Program (MHIP); CBITS	school-based mental health provider	400	Met	Trauma and depressive symptoms
Kulis et al. (2013)	Living in 2 Worlds (L2W)	Community staff (e.g., facilitator from a community educational agency and community members)	1,050	Met	Substance use refusal skills
Leff et al. (2010)	Preventing Relational Aggression in Schools Everyday (PRAISE) Program	Combination (masters-level therapists and classroom teachers)	800	Met	Knowledge of anger problem solving, aggression, hostile attributional style
McLeod et al. (2015)	RELATE - Relationship Education Leading Adolescents toward Empowerment; peer-facilitated teenage dating violence prevention program	Combination (peer led intervention with teachers to provide behavioral support)	275	Met	Attitudes and knowledge about healthy relationship
Moran & Bussey (2007)	Seventh Generation Program	NR	NR (13 weekly sessions)	Met	Beliefs around alcohol, locus of control, depression, self-concept, social support, decision making, racial/ethnic identity
O'Donnell (2012)	Poder Resolver	researcher/university personnel	900	Met	Internalizing problems, attention problems, attitudes to school and teacher, locus of control, adjustment, self-esteem, social stress

O'Hearn & Gatz (2002)	Going for the Goal (GOAL)	Peer	500	Met	Knowledge of goal setting skills, locus of control
Thomas (2004)	Young Empowered Sisters (YES)	researcher/university personnel	1,800	Met	Racial/ethnic identity, academic self-concept, racial justice activism
Warren (2006)	Keepin' it REAL	classroom teacher/school staff	NR (10 sessions)	Met	Substance use
Whaley & McQueen (2020)	Imani Rites of Passage program (IROP)	Community staff receiving supervision	1,800	At least one criteria not met	Racial socialization/identity, self-esteem, perceived self-competence, anger management
Williams et al. (2016)	Familias: Preparando al Nueva Generación (FPNG) in combination with Keepin' it REAL	researcher/university personnel	NR (10 weeks of Keepin' it REAL and 8 weeks of FPNG)	Met	Substance use

Table C3

Descriptive Results of Studies: Cultural Adaptation and Other Program Characteristics

Study	Cultural Adaptation[a]					School Staff Training	Partnership with Families	Partnership with Community
	Language	Persons	Metaphors/Content/Concepts	Goals/ Context	Method			
Allison & Ferreira (2017)	Yes	Yes	No	No	No	Yes	Yes	Yes
Belgrave (2000)	No	NR	Yes	Yes	No	No	No	No
Belgrave (2004)	No	Yes	Yes	Yes	No	No	No	Yes
Brown et al. (2012)	Yes	No	Yes	No	No	No	No	No
Cardemil (2000a & 2000b)	No	No	Yes	Yes	No	No	No	No
Castro-Olivo & Merrell (2012)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes

Castro-Olivo (2014)	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Castro-Olivo (2021)	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Clemons et al. (2011)	No	NR	Yes	Yes	No	No	Yes	Yes
Cramer & Castro-Olivo (2016)	Yes	No	Yes	Yes	Yes	No	No	No
Cyril (2020)	No	No	Yes	Yes	No	No	No	No
Domitrovich (2022)	No	No	Yes	Yes	No	Yes	No	No
Gonzales et al. (2018)	Yes	No	No	Yes	No	No	Yes	No
Gonzalez-Blanks et al. (2012)	No	No	Yes	Yes	No	No	No	No
Goodkind (2010)	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Graves et al. (2017)	Yes	NR	Yes	No	Yes	No	No	Yes
Graves & Aston (2018)	No	Yes	Yes	Yes	No	No	No	No
Holleran Steiker et al. (2014a & 2014b)	No	No	Yes	No	Yes	No	No	No
Hopson (2006)	Yes	NR	Yes	No	Yes	Yes	No	Yes
Hopson & Holleran Steiker (2010)	Yes	NR	Yes	No	Yes	Yes	No	Yes
Jonen (2003)	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Jones, Lee, et al. (2018)	No	NR	Yes	Yes	No	No	No	No
Kataoka et al. (2003)	Yes	Yes	No	No	No	Yes	Yes	Yes
Kulis et al. (2013)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Leff et al. (2010)	No	NR	Yes	No	Yes	Yes	No	Yes
McLeod et al. (2015)	Yes	NR	Yes	No	Yes	No	No	No
Moran & Bussey (2007)	No	NR	Yes	Yes	Yes	No	No	Yes
O'Donnell (2012)	Yes	Yes	Yes	No	No	No	No	No
O'Hearn & Gatz (2002)	Yes	Yes	Yes	Yes	No	No	No	No
Thomas (2004)	No	NR	Yes	Yes	No	No	No	No
Warren (2006)	Yes	No	Yes	Yes	Yes	Yes	No	Yes
Whaley & McQueen (2020)	No	Yes	Yes	Yes	No	No	No	Yes
Williams et al. (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. [a] Cultural adaptations addressed in the SEL programs were organized in a way that aligns with the ecological validity framework (Bernal et al., 1995).

Table C4

Descriptive Results of Studies: Setting Characteristics

Study	Locale	Setting Type	School Hours
Allison & Ferreira (2017)	Urban	School	During & after school hours
Belgrave (2000)	Urban	School	During & after school hours
Belgrave (2004)	Urban	School	Afterschool
Brown et al. (2012)	NR	School	During school hours
Cardemil (2000a & 2000b)	Urban	School	During school hours
Castro-Olivo & Merrell (2012)	Urban	School	During school hours
Castro-Olivo (2014)	NR	School	During school hours
Castro-Olivo (2021)	NR	School	During school hours
Clemons et al. (2011)	Urban	School & community	During & after school hours
Cramer & Castro-Olivo (2016)	Suburban	School	During school hours
Cyril (2020)	NR	School	Summer program
Domitrovich (2022)	Urban	School	During school hours
Gonzales et al. (2018)	Urban	School	During & after school hours
Gonzalez-Blanks et al. (2012)	Urban	School	During school hours
Goodkind (2010)	Tribal community/Indian reservation	School	During & after school hours
Graves et al. (2017)	Urban	School	During school hours
Graves & Aston (2018)	Urban	School	During school hours
Holleran Steiker et al. (2014a & 2014b)	NR	School & community	During & after school hours
Hopson (2006)	Urban	School	During school hours
Hopson & Holleran Steiker (2010)	Urban	School	During school hours
Jonen (2003)	Urban	School	Summer program
Jones, Lee, et al. (2018)	Urban	School	During school hours
Kataoka et al. (2003)	Urban	School	During & after school hours

Kulis et al. (2013)	Urban	School	During school hours
Leff et al. (2010)	Urban	School	During school hours
McLeod et al. (2015)	Urban	School	During school hours
Moran & Bussey (2007)	Urban	NR	Afterschool
O'Donnell (2012)	Rural	School	During school hours
O'Hearn & Gatz (2002)	Urban	School	During school hours
Thomas (2004)	Urban	School	Afterschool
Warren (2006)	Urban	School	During school hours
Whaley & McQueen (2020)	Urban	School	Afterschool
Williams et al. (2016)	Urban	School	During & after school hours

Table C5

Descriptive Results of Studies: Participant/Sample Characteristics*

Study	Total Participants	Race	Grade	Age	Gender	SES[a]	Clinical Risk[b]	Acculturation Level[c]	ELL[d]
Allison & Ferreira (2017)	23	100% Latinx	Late Elementary & Middle School	11.61	60.9% female, 39.1% male	Low	At-Risk	Low	Yes
Belgrave (2000)	147	100% Black/African American	Late Elementary & Middle School	11	100% female	Low	At-Risk	NR	No
Belgrave (2004)	59	100% Black/African American	Middle School	11.82	100% female	NR	No	NR	No
Brown et al. (2012)	150	94% Latinx, 3% White/Caucasian, 1% Black/ African American	Early & Late Elementary	7.5	NR	Low	No	Low	Yes

Cardemil (2000a)	49	100% Latinx	Late Elementary & Middle School	11.35	44.90% female, 55.1% male	Low	Mixed	NR	NR
Cardemil (2000b)	103	100% Black/African American	Late Elementary & Middle School	10.94	56.31% female, 43.69% male	Low	Mixed	NR	NR
Castro-Olivo & Merrell (2012)	40	100% Latinx	High School	15.3	50% female, 50% male	Low	No	Low	Yes
Castro-Olivo (2014)	102	100% Latinx	Middle & High School	13.91	50% female, 49% male, 1% other	Low	No	Low	Yes
Castro-Olivo (2021)	102	100% Latinx	Middle & High School	13.91	51.96% female, 46.08% male, 1.96% other	Low	No	Low	Yes
Clemons et al. (2011)	1,545	59.05% Black/African American, 17.2% Latinx, 10.7% White, 3.4% Native, 1% Asian American Pacific Islander, 0.15% multiracial	Middle & High School	13.47	43.15% female, 56.85% male	Low	No	NR	NR

Cramer & Castro-Olivo (2016)	20	75% Latinx, 15% Black/African American, 5% White/Caucasian	High School	14.5	20% female, 80% male	Low	No	Mixed	Mixed
Cyril (2020)	36	53% Latinx, 22% Black/African American, 19% Multiracial, 2% White/Caucasian	High School	16	69% female, 28% male, 3% other	Low	No	NR	NR
Domitrovich (2022)	694	61% Black/African American, 18% Latinx, 2% White/Caucasian	Middle School	12.64	59% female, 41% male	Low	No	NR	No
Gonzales et al. (2018)	516	100% Latinx	Middle School	12.31	50.78% female, 49.22% male	NR	No	NR	NR
Gonzalez-Blanks et al. (2012)	94	100% Latinx	Middle School	11.5	NR	NR	No	NR	NR
Goodkind (2010)	23	86.96% Native American, 13.04% Multiracial (Native American and additional ethnicity)	Middle School	13.39	69.57% female, 30.43% male	NR	At-Risk	NR	NR

Graves et al. (2017)	61	100% Black/African American	Early Elementary	7.2	100% male	Low	At-Risk	NR	No
Graves & Aston (2018)	14	100% Black/African American	Middle School	12.5	100% male	Low	At-Risk	NR	No
Holleran Steiker et al. (2014a)	53	56.6% Latinx, 26.42% White, 7.55% Black/African American	High School	16.32	52.83% female, 47.17% male	NR	At-Risk	NR	NR
Holleran Steiker et al. (2014b)	53	56.6% Latinx, 20.75% White, 7.55% Black/African American	High School	16.15	52.83% female, 47.17% male	NR	At-Risk	NR	NR
Hopson (2006)	41	43.9% Latinx, 34.15% White, 7.32% Black/African American	High School	16.44	58.54% female, 41.46% male	Mixed	At-Risk	NR	NR
Hopson & Holleran Steiker (2010)	41	43.9% Latinx, 34.15% White, 7.32% Black/African American	High School	16.44	58.54% female, 41.46% male	Mixed	At-Risk	NR	NR

Jonen (2003)	44	100% Black/African American	High School	14.8	100% male	Low	At-Risk	NR	No
Jones, Lee, et al. (2018)	12	100% Black/African American	Middle School	12.5	100% female	NR	No	NR	No
Kataoka et al. (2003)	198	100% Latinx	Late Elementary & Middle School	11.4	50% female, 50% male	NR	At-Risk	Low	Yes
Kulis et al. (2013)	57	100% Native American	Middle School	12.5	53% female, 47% male	NR	No	NR	NR
Leff et al. (2010)	21	74% Black/African American, 9% Multiracial, 5% White/Caucasian	Late Elementary	9.43	100% female	Low	Mixed	NR	No
McLeod et al. (2015)	291	39% Black/African American, 36% White/Caucasian, 13% Multiracial, 8% Latinx	High School	14.21	42% female, 58% male	NR	At-Risk	NR	NR
Moran & Bussey (2007)	378	100% Native American	Late Elementary & Middle School	10.46	49.72% female, 50.28% male	NR	No	NR	NR
O'Donnell (2012)	14	100% Latinx	Middle School	11.59	57.14% female,	Low	At-Risk	Low	Yes

					42.86% male				
O'Hearn & Gatz (2002)	479	87% Latinx, 12.6 Asian American Pacific Islander, 0.4% White/Caucasian	Middle School	12.5	48% female, 52% male	Mixed	No	NR	Mixed
Thomas (2004)	74	100% Black/African American	High School	14.88	100% female	Mixed	No	NR	No
Warren (2006)	6,133	72% Latinx, 19% White/Caucasian, 9% Black/African American	Middle School	12.5	47% female, 53% male	Low	No	NR	NR
Whaley & McQueen (2020)	40	93% Black/African American	High School	15.73	100% male	Low	No	NR	No
Williams et al. (2016)	532	87.78% Latinx	Middle School	12.2	48% female, 52% male	Low	No	NR	NR

Note. * Some studies (e.g., Brown et al. (2012), Gonzales et al. (2018), Leff et al. (2010), and McLeod et al. (2015)) had multiple samples within their studies and reported outcomes separately by race/ethnicity, grade level, gender, and/or clinical risk. Those data have been captured for the meta-analysis; however, the sample data within a study was merged for this descriptive table. [a] Low (predominantly, > 60% of participants, from low-income family), Middle/High (predominantly, > 60% of participants, from upper/middle class), Mixed (socioeconomically diverse). [b] No (there is no description that participants were presenting with mental and behavioral health problems; students may be receiving a prevention program at the universal/tier 1 level). At-Risk (participants have mental and behavioral health problems and are considered at risk/clinical as measured using a mental health screener or some existing criteria developed by the researchers), Mixed (researcher explicitly reports that the sample includes participants with a mix of clinical presentation). [c] Low (predominantly, > 60% of participants, with low level of acculturation, recently immigrated), High (predominantly, > 60% of participants, high level of acculturation, 2nd or 3rd generation Latinx) or Mixed (no predominant acculturation level). [d]: Yes (Predominantly ELL, > 60% ELL; recently immigrated from non-English speaking country; beginning, developing, lower, early English language proficiency; considered ELL by their state criteria), No (Predominantly non-ELLs, > 60% fully bilingual; expanding, bridging, reaching, higher, or fluent English language proficiency; considered non-ELL by their state criteria), or Mixed (no predominant ELL status).

Table C6

Descriptive Results of Studies: Study Design Characteristics

Study	Design Type	Random Assignment	Attrition Bias Level[a]	Comparison condition	Assignment level	Treatment Fidelity
Allison & Ferreira (2017)	Single group pre-posttest	No	Low	NA	NA	NR
Belgrave (2000)	Quasi-experimental	No	Low	BAU/waitlist control	School	NR
Belgrave (2004)	Cluster randomized trial	Yes	Low	BAU/waitlist control	School	NR
Brown et al. (2012)	Single group pre-posttest	No	NR	NA	NA	NR
Cardemil (2000a & 2000b)	RCT	Yes	Low	BAU/waitlist control	Student	100%
Castro-Olivo & Merrell (2012)	Single group pre-posttest	No	NR	NA	NA	NR
Castro-Olivo (2014)	Quasi-experimental	Yes	NR	BAU/waitlist control	Classroom	NR
Castro-Olivo (2021)	Quasi-experimental	Yes	Tolerable	BAU/waitlist control	Classroom	NR
Clemons et al. (2011)	Single group pre-posttest	No	NR	NA	NA	NR
Cramer & Castro-Olivo (2016)	Single group pre-posttest	No	NR	NA	NA	NR
Cyril (2020)	Quasi-experimental	No	NR	BAU/waitlist control	Student	NR

Domitrovich (2022)	Cluster randomized trial	Yes	Tolerable	BAU/waitlist control	School	84.5%
Gonzales et al. (2018)	RCT	Yes	Low	Active control	Student	91% (students), 88% (parents)
Gonzalez-Blanks et al. (2012)	Cluster randomized trial	Yes	NR	Active control	School	NR
Goodkind (2010)	Single group pre-posttest	No	Low	NA	NA	NR
Graves et al. (2017)	RCT	Yes	Low	BAU/waitlist control	Student	100%
Graves & Aston (2018)	Single group pre-posttest	No	Low	NA	NA	NR
Holleran Steiker et al. (2014a)	Quasi-experimental	No	Low	Active control	NR	NR
Holleran Steiker et al. (2014b)	Quasi-experimental	No	Low	BAU/waitlist control	NR	NR
Hopson (2006)	Quasi-experimental	No	Low	BAU/waitlist control	Existing groups, Classroom	NR
Hopson & Holleran Steiker (2010)	Quasi-experimental	No	Low	BAU/waitlist control	Existing groups, Classroom	NR
Jonen (2003)	Quasi-experimental	Yes	NR	BAU/waitlist control	Student	NR
Jones, Lee, et al. (2018)	Quasi-experimental	No	NR	Active control	Grade	NR
Kataoka et al. (2003)	Quasi-experimental	No	Low	BAU/waitlist control	Student	NR
Kulis et al. (2013)	Single group pre-posttest	No	NR	NA	NA	NR

Leff et al. (2010)	Block randomized trial	Yes	NR	BAU/waitlist control	Classroom	94% (core components), 74% (process dimensions)
McLeod et al. (2015)	Single group pre-posttest	No	Low	NA	NA	NR
Moran & Bussey (2007)	Quasi-experimental	No	Tolerable	NR	NR	NR
O'Donnell (2012)	Single group pre-posttest	No	Low	NA	NA	NR
O'Hearn & Gatz (2002)	Quasi-experimental	No	Low	BAU/waitlist control	School	NR
Thomas (2004)	RCT	Yes	NR	BAU/waitlist control	Student	NR
Warren (2006)	Cluster randomized trial	Yes	NR	BAU/waitlist control	School	NR
Whaley & McQueen (2020)	Quasi-experimental	No	Low	BAU/waitlist control	Student	NR
Williams et al. (2016)	Block randomized trial	Yes	Low	BAU/waitlist control	School	NR

Note. [a] Low (low level of bias; tolerable threat of bias under both optimistic and cautious assumptions; no demographic difference between attritors and non-attritors), Tolerable (tolerable threat of bias under optimistic assumption, unacceptable threat of bias under cautious assumption), or NR (missing either overall or differential attrition information that was unable to be hand-calculated). Studies with high level of bias/unacceptable treat of bias under both assumptions were removed from the analysis.

Appendix E

Table E

Descriptions of Outcomes Included for the Meta-Analysis

Outcome	Description[a]
Racial/ethnic identity	Race-related beliefs, personal values congruent to their racial/ethnic culture importance of their race to their identity, feelings related to their racial/ethnic identity, view on how other people feel about their race/ethnic group.
Social and emotional skills	Youth's engagement of social-emotional skills such as self-awareness (e.g., identifying one's feelings, interests, strengths), self-management (e.g., coping and regulating emotions and thoughts, controlling impulses), social awareness (e.g., understanding others' perspective and similar/differing values with empathy and respect), relationship skills (e.g., forming and maintaining healthy relationship with others, effectively resolving conflict with others), responsible decision making (e.g., making safe, ethical socially appropriate choices, participating in activism), and SEL knowledge as assessed through tests embedded in SEL curricula. Consistent with Taylor et al. (2017), the outcomes in this category were generally assessed through hypothetical situation (e.g., responses in vignettes, etc.) instead of direct observation of youth's behavior. General behaviors or observations of the actual skill were categorized as positive social behavior.
Attitudes toward self, school, and others	Attitudes toward self (e.g., self-esteem, self-efficacy, and self-concept), attitudes toward school (e.g., attitudes and beliefs around their teachers and learning, school climate, and sense of belonging), and attitudes toward others (e.g., prosocial beliefs, intentions, or attitudes towards other people, justice-oriented actions such as activism, or problem behavior such as substance use or violence) as typically measured by self-reported measure completed by youth. Attitudes and beliefs around their own racial/ethnic identity were categorized under "racial/ethnic identity."
Positive social behavior	Frequency of youth's social behaviors that reflect cooperation, help for others, interpersonal problem-solving as measured using youth self-report or other informant report (e.g., teacher, caregiver).

Conduct problems	Frequency and intensity of youth's externalizing problem behavior such as aggression, bullying, disruptive, and/or non-compliant behaviors as measured by using youth self-report or other informant report (e.g., teacher, caregiver).
Emotional distress	Intensity and frequency of youth's internalizing problem behaviors, such as anxiety, depression, trauma, and stress as measured using youth self-report or other informant report (e.g., teacher, caregiver). Outcomes such as locus of control and self-esteem were categorized under "attitudes toward self, school, and others."
Substance use	Youth engagement of substance use (e.g., alcohol, marijuana, tobacco use within 30 months). Attitudes and perceptions around substance use (e.g., acceptance, refusal) were categorized under "attitudes toward self, school, and others".

Note. [a] The definition of each variable was adapted based on Taylor et al. (2017) that organized outcomes into similar categories. # of Outcomes[b] and # of Studies[b]: the number in each columns indicate how many effect sizes were represented for each outcome in the meta-analysis number of outcomes and how many studies each outcome came from.

Appendix F

Table F

Cultural Adaptation Definitions and Examples/Non-Examples

Dimensions	Examples/Non-Examples	Examples from the Analyzed Reports
Language: Using language that is familiar to clients	Examples: intervention materials were translated to Spanish; students given option to receive intervention in the language of their preference; explicit mention of using culturally appropriate language (that may not involve translation). Non-examples: teaching language to reconnect students to their cultural heritage.	Intervention was delivered in participants' dominant language (e.g., Spanish) or language of preference; materials for students and sometimes parents were translated into non-English language; there were multiple versions of the intervention based on language preference; there were multiple versions of the intervention based on language preference; students came up with real-life scenarios and scripts; report explicitly mentions that the curriculum adapted language to ensure that children can easily understand key ideas.
Persons: Lessons delivered by individual with similar cultural characteristics	Examples: bilingual/bicultural interventionist; interventionist shares race/ethnic identity with students. Non-examples: interventionists were trained in culturally sensitive practice; only one of the facilitators out of many was a person of color who has the same race/ethnicity as the target population.	Interventionist was a bilingual or bicultural individual; intervention was facilitated by a member of their community with similar race/ethnicity and cultural background.
Metaphors/Content/Concepts: Using idioms, concepts, or symbols commonly used in students' culture,	Examples: using vignettes and case examples that are culturally relevant; intervention incorporates traditional values (e.g., spirituality, harmony, etc), history, and literature that is salient to the culture.	Vignettes, folk tales, art, and examples were drawn from the unique experiences that the target population encounter; curriculum included narratives and scenarios that were incorporated into skill building exercises; incorporates social and spiritual principles (e.g., Nguzo Saba, Kwanzaa) that emphasizes different

including examples/intervention materials that are relevant to students' culture	Non-examples: adapting language of the curriculum (coded under Language dimension).	cultural values (family, community, culture, tradition, unity, creativity); removing inadvertently offensive Eurocentric examples of cognitive restructuring (e.g., Europeans' early exploration, Chicken Little); traditional healing practices were discussed during individual student meeting (in addition to the CBITS group curriculum); incorporates collectivistic values.
Goals/Context: Aligning program goals with social, economic, political, and historical experiences of students. Addressing the risk factor (e.g., acculturative stress, immigration issues, racism/discrimination) and fostering culturally relevant protective factors	Examples: coping with acculturative stress and migration; coping with racism; increase social support between students and respected Native American elders in their community; counteract the effects of intergenerational trauma. Non-examples: universal goals applicable to all ethnic/racial group (e.g., decrease substance use, increase perspective taking).	Program reflects the risk and protective factor of target population (e.g., acculturative stress, familial acculturation gaps, perceived discrimination, ethnic pride, *familismo*); incorporated lesson on ethnic pride, instilling strong cultural identity, coping and problem solving with acculturative stress; learning [drug] resistance strategies that are reflective of the cultural values; targets parent-child influences that will change attitudes, norms, behaviors around child's drug use; incorporates multigenerational view (remembering wisdom of their elders when making decisions and considering how their decision will impact those in the future generation); identifying and utilizing natural support system within their community (elders, other trusted adults in the community); counteract the effects of historical trauma (domestic violence and sexual assault); provide educational and social guidance and experiences during the adolescent developmental period (Rites of Passage); increasing awareness around racism and coping with racism.
Methods: Using consultation with community members or focus groups to develop program content and any changes they made	Examples: formed task force with parents, community advocates to successfully implement program; conducted focus groups with cultural liaisons to ensure adaptations were acceptable.	Researcher conducted focus groups with key stakeholders (e.g., students, parents, ELL teachers, elders in the community) and consulted with experts to ensure that the curriculum accurately aligns with the cultural values of the target population; study of cultural knowledge to better align intervention

in the delivery of program to make sure the implementation/participation is more successful	Non-examples: focus groups were conducted to evaluate the experience of student participants after the data collection to assess areas for future improvements, meaning that their input was not part of the curriculum that was examined in the current study.	procedures to increase acceptability; researchers worked with students with same ethnicity and age group to study drug resistance narratives, communication styles, group values to develop the lesson content; The program was developed using community-based participatory research.